As with all risk-bearing activities, the risk exposures a banking organization assumes in its trading, derivative, and capital-markets activities should be fully supported by an adequate capital position. Accordingly, banking organizations should ensure that their capital positions are sufficiently strong to support all trading and capital-markets risks on a fully consolidated basis and that adequate capital is maintained in all affiliated entities engaged in these activities. Institutions with significant trading activities should have reasonable methods to measure the risks of their activities and allocate capital against the economic substance of those risks. To that extent, regulatory capital requirements should be viewed as minimum requirements, and those institutions exposed to a high or inordinate degree of risk or forms of risk that may not be fully addressed in regulatory requirements are expected to operate above minimum regulatory standards consistent with the economic substance of the risks entailed.

As the baseline for capital-adequacy assessment, bank supervisors first consider an organization's risk-based capital ratio; that is, the ratio of qualifying capital to assets and off-balance-sheet items that have been ''risk weighted'' according to perceived credit risk. Supervisors also focus on the tier 1 leverage ratio to help assess capital adequacy. For banking organizations with significant trading activities, the risk-based capital ratio also takes into account an institution's exposure to market risk.[1]

RISK-BASED CAPITAL MEASURE

The principal objectives of the risk-based capital measure[2] are to (1) make regulatory capital requirements generally sensitive to differences in risk profiles among banking organizations; (2) factor off-balance-sheet exposures into the assessment of capital adequacy; (3) minimize disincentives to holding liquid, low-risk assets; and (4) achieve greater consistency in the evaluation of the capital adequacy of major banks throughout the world. The risk-based capital measure focuses primarily on the credit risk associated with the nature of banking organizations' on- and off-balance-sheet exposures and on the type and quality of their capital. It provides a definition of capital and a framework for calculating risk-weighted assets by assigning assets and off-balance-sheet items to broad categories of credit risk. A banking organization's risk-based capital ratio is calculated by dividing its qualifying capital by its risk-weighted assets. The risk-based capital measure sets forth minimum supervisory capital standards that apply to all banking organizations on a consolidated basis.

The risk-based capital ratio focuses principally on broad categories of credit risk. For most banking organizations, the ratio does not incorporate other risk factors that may affect the organization's financial condition. These factors may include overall interest-rate exposure; liquidity, funding, and market risks; the quality and level of earnings; investment or loan portfolio concentrations; the effectiveness of loan and investment policies; the quality of assets; and management's ability to monitor and control financial and operating risks. An overall assessment of capital adequacy must take into account these other factors and may differ significantly from conclusions that might be drawn solely from the level of an organization's risk-based capital ratio.

Definition of Capital

For risk-based capital purposes, a banking organization's capital consists of two major components: core capital elements (tier 1 capital) and supplementary capital elements (tier 2 capital). Core capital elements include common equity including capital stock, surplus, and undivided profits; qualifying noncumulative perpetual preferred stock (or, for bank holding companies, cumulative perpetual preferred stock, the aggre-

1. The market-risk capital rules are mandatory for certain banking organizations with significant exposure to market risk beginning no later than January 1, 1998. See ''Market-Risk Measure,'' below.

2. The risk-based capital measure is based on a framework developed jointly by supervisory authorities from the G-10 countries. The Federal Reserve implemented the risk-based measure in January 1989. This section provides a brief overview of the current risk-based capital measure. More detailed discussions can be found in the Federal Reserve's *Commercial Bank Examination Manual*. Specific guidelines for calculating the risk-based capital ratio are found in Regulation H (12 CFR 208, appendixes A and E) for state member banks and in Regulation Y (12 CFR 225, appendixes A and E) for bank holding companies.

gate of which may not exceed 25 percent of tier 1 capital); and minority interest in the equity accounts of consolidated subsidiaries. Tier 1 capital is generally defined as the sum of core capital elements less goodwill, unrealized holding losses in the available-for-sale equity portfolio, and other intangible assets that do not qualify within capital, as well as any other investments in subsidiaries that the Federal Reserve determines should be deducted from tier 1 capital. Tier 1 capital represents the highest form of capital, namely permanent equity. Tier 2 capital consists of a limited amount of the allowance for loan and lease losses, perpetual preferred stock that does not qualify as tier 1 capital, mandatory convertible securities and other hybrid capital instruments, long-term preferred stock with an original term of 20 years or more, and limited amounts of term subordinated debt, intermediate-term preferred stock, and unrealized holding gains on qualifying equity securities. See section 3020.1, ''Assessment of Capital Adequacy,'' in the *Commercial Bank Examination Manual* for a complete definition of capital elements.

Capital investments in unconsolidated banking and finance subsidiaries and reciprocal holdings of other banking organizations' capital instruments are deducted from an organization's capital. The sum of tier 1 and tier 2 capital less any deductions makes up total capital, which is the numerator of the risk-based capital ratio.

In assessing an institution's capital adequacy, supervisors and examiners should consider the capacity of the institution's paid-in equity and other capital instruments to absorb economic losses. In this regard, it has been the Federal Reserve's long-standing view that common equity (that is, common stock and surplus and retained earnings) should be the dominant component of a banking organization's capital structure and that organizations should avoid undue reliance on non-common-equity capital elements.[3] Common equity allows an organization to absorb losses on an ongoing basis and is permanently available for this purpose. Further, this element of capital best allows organizations to conserve resources when they are under stress because it provides full discretion in the amount and timing of dividends and other distributions. Consequently, common equity is the basis on which most market judgments of capital adequacy are made.

Consideration of the capacity of an institution's capital structure to absorb losses should also take into account how that structure could be affected by changes in the institution's performance. For example, an institution experiencing a net operating loss—perhaps because of realization of unexpected losses—will face not only a reduction in its retained earnings, but also possible constraints on its access to capital markets. These constraints could be exacerbated should conversion options be exercised to the detriment of the institution. A decrease in common equity, the key element of tier 1 capital, may have further unfavorable implications for an organization's regulatory capital position. The eligible amounts of most types of tier 1 preferred stock and tier 2 or tier 3 capital elements may be reduced, because current capital regulations limit the amount of these elements that can be included in regulatory capital to a maximum percentage of tier 1 capital. Such adverse magnification effects could be further accentuated should adverse events take place at critical junctures for raising or maintaining capital, for example, as limited-life capital instruments are approaching maturity or as new capital instruments are being issued.

Risk-Weighted Assets

Each asset and off-balance-sheet item is assigned to one of four broad risk categories based on the obligor or, if relevant, the guarantor or type of collateral. The risk categories are zero, 20, 50, and 100 percent. The standard risk category, which includes the majority of items, is 100 percent. The appropriate dollar value of the amount in each category is multiplied by the risk weight associated with that category. The weighted values are added together and the resulting sum is the organization's risk-weighted assets, the denominator of the risk-based capital ratio.[4]

Off-balance-sheet items are incorporated into the risk-based capital ratio by first being converted into a ''credit-equivalent'' amount. To accomplish this, the face amount of the item is multiplied by a credit conversion factor (zero, 20, 50, or 100 percent). The credit-equivalent

3. The Basel Committee on Banking Supervision affirmed this view in a release issued in October 1998, which stated that common shareholders' funds are the key element of capital.

4. See the *Commercial Bank Examination Manual* for a complete discussion of risk-weighted assets.

amount is then assigned to a risk category in the same manner as on-balance-sheet items. For over-the-counter derivative transactions, the credit-equivalent amount is determined by multiplying the notional principal amount of the underlying contract by a credit-conversion factor and adding the resulting product (which is an estimate of potential future exposure) to the positive mark-to-market value of the contract (which is the current exposure). A contract with a negative mark-to-market value is treated as having a current exposure of zero. (See ''Credit-Equivalent Computations for Derivative Contracts'' below.)

The primary determinant of the appropriate risk category for a particular off-balance-sheet item is the obligor. Collateral or guarantees may be used to a limited extent to assign an item to a lower risk category than would be available to the obligor. The forms of collateral generally recognized for risk-based capital purposes are cash on deposit in the lending institution; securities issued or guaranteed by central governments of the Organization for Economic Cooperation and Development (OECD) countries,[5] U.S. government agencies, or U.S. government–sponsored agencies; and securities issued by multilateral lending institutions or regional development banks in which the U.S. government is a shareholder or contributing member. The only guarantees recognized are those provided by central or state and local governments of the OECD countries, U.S. government agencies, U.S. government–sponsored agencies, multilateral lending institutions or regional development banks in which the United States is a shareholder or contributing member, U.S. depository institutions, and foreign banks.

Banking organizations are expected to meet a minimum ratio of capital to risk-weighted assets of 8 percent, with at least 4 percent taking the form of tier 1 capital. Organizations that do not meet the minimum ratios, or that are considered to lack sufficient capital to support their activities, are expected to develop and implement capital plans acceptable to the Federal Reserve for achieving adequate levels of capital.

TIER 1 LEVERAGE RATIO

The principal objective of the tier 1 leverage measure is to place a constraint on the maximum degree to which a banking organization can leverage its equity capital base.[6] A banking organization's tier 1 leverage ratio is calculated by dividing its tier 1 capital by its average total consolidated assets. Generally, average total consolidated assets are defined as the quarterly average total assets reported on the organization's most recent regulatory reports of financial condition, less goodwill, certain other intangible assets, investments in subsidiaries or associated companies, and certain excess deferred-tax assets that are dependent on future taxable income.

The Federal Reserve has adopted a minimum tier 1 leverage ratio of 3 percent for the most highly rated banks. A state member bank operating at or near this level is expected to have well-diversified risk, including no undue interest-rate-risk exposure; excellent asset quality; high liquidity; good earnings; and in general be considered a strong banking organization rated a composite 1 under the CAMELS rating system for banks. Other state member banks are expected to have a minimum tier 1 leverage ratio of 4 percent. Bank holding companies rated a composite 1 under the BOPEC rating system and those that have implemented the Board's risk-based capital measure for market risk must maintain a minimum tier 1 leverage ratio of 3 percent. Other bank holding companies are expected to have a minimum tier 1 leverage ratio of 4 percent. In all cases, banking organizations should hold capital commensurate with the level and nature of all risks to which they are exposed.

5. OECD countries are defined to include all full members of the Organization for Economic Cooperation and Development regardless of entry date, as well as countries that have concluded special lending arrangements with the International Monetary Fund (IMF) associated with the IMF's General Arrangements to Borrow, but excludes any country that has rescheduled its external sovereign debt within the previous five years. As of May 1999, the OECD countries were Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Saudi Arabia has concluded special lending arrangements with the IMF associated with the IMF's General Arrangements to Borrow.

6. The tier 1 leverage measure, intended to be a supplement to the risk-based capital measure, was adopted by the Federal Reserve in 1990. Guidelines for calculating the tier 1 leverage ratio are found in Regulation H (12 CFR 208, appendix B) for state member banks and in Regulation Y (12 CFR 225, appendix D) for bank holding companies.

CREDIT-EQUIVALENT COMPUTATIONS FOR DERIVATIVE CONTRACTS

Applicable Derivative Contracts

Credit-equivalent amounts are computed for each of the following off-balance-sheet contracts:

- interest-rate contracts
  - — single-currency interest-rate swaps
  - — basis swaps
  - — forward rate agreements
  - — interest-rate options purchased (including caps, collars, and floors purchased)
  - — any other instrument linked to interest rates that gives rise to similar credit risks (including when-issued securities and forward forward deposits accepted)
- exchange-rate contracts
  - — cross-currency interest-rate swaps
  - — forward foreign-exchange-rate contracts
  - — currency options purchased
  - — any other instrument linked to exchange rates that gives rise to similar credit risks
- equity derivative contracts
  - — equity-linked swaps
  - — equity-linked options purchased
  - — forward equity-linked contracts
  - — any other instrument linked to equities that gives rise to similar credit risks
- commodity (including precious metal) derivative contracts
  - — commodity-linked swaps
  - — commodity-linked options purchased
  - — forward commodity-linked contracts
  - — any other instrument linked to commodities that gives rise to similar credit risks
- credit derivatives
  - — credit-default swaps
  - — total-rate-of-return swaps
  - — other types of credit derivatives

Exceptions

Exchange-rate contracts with an original maturity of 14 or fewer calendar days and derivative contracts traded on exchanges that require daily receipt and payment of cash variation margin may be excluded from the risk-based ratio calculation. Gold contracts are accorded the same treatment as exchange-rate contracts except that gold contracts with an original maturity of 14 or fewer calendar days are included in the risk-based ratio calculation. Over-the-counter options purchased are included and treated in the same way as other derivative contracts.

Calculation of Credit-Equivalent Amounts

The credit-equivalent amount of a derivative contract (excluding credit derivatives) that is not subject to a qualifying bilateral netting contract is equal to the sum of—

- the current exposure (sometimes referred to as the replacement cost) of the contract and
- an estimate of the potential future credit exposure of the contract.

The current exposure is determined by the mark-to-market value of the contract. If the mark-to-market value is positive, then the current exposure is equal to that mark-to-market value. If the mark-to-market value is zero or negative, then the current exposure is zero. Mark-to-market values are measured in dollars, regardless of the currency or currencies specified in the contract, and should reflect changes in the relevant rates, as well as in counterparty credit quality.

The potential future credit exposure of a contract, including a contract with a negative mark-to-market value, is estimated by multiplying the notional principal amount of the contract by a credit-conversion factor. Banking organizations should use, subject to examiner review, the effective rather than the apparent or stated notional amount in this calculation. The conversion factors (in percent) are in table 1. The Board has noted that these conversion factors, which are based on observed volatilities of the particular types of instruments, are subject to review and modification in light of changing volatilities or market conditions.

Table 1—Conversion-Factor Matrix

Remaining maturity	*Interest rate*	*Foreign-exchange rate and gold*	*Equity*	*Precious metals*	*Other commodity*
One year or less	0.0	1.0	6.0	7.0	10.0
Over one to five years	0.5	5.0	8.0	7.0	12.0
Over five years	1.5	7.5	10.0	8.0	15.0

For a contract that is structured such that on specified dates any outstanding exposure is settled and the terms are reset so that the market value of the contract is zero, the remaining maturity is equal to the time until the next reset date. For an interest-rate contract with a remaining maturity of more than one year that meets these criteria, the minimum conversion factor is 0.5 percent.

For a contract with multiple exchanges of principal, the conversion factor is multiplied by the number of remaining payments in the contract. A derivative contract not included in the definitions of interest-rate, exchange-rate, equity, or commodity contracts is subject to the same conversion factors as a commodity, excluding precious metals.

No potential future credit exposure is calculated for a single-currency interest-rate swap in which payments are made based on two floating-rate indexes, so-called floating/floating or basis swaps. The credit exposure on these contracts is evaluated solely on the basis of their mark-to-market values.

Examples of the calculation of credit-equivalent amounts for selected instruments are in table 2.

Table 2—Calculating Credit-Equivalent Amounts for Derivative Contracts

Type of Contract	*Notional principal amount*	*Conversion factor*	*Potential exposure (dollars)*	*Mark-to-market*	*Current exposure (dollars)*	*Credit-equivalent amount*
(1) 120-day forward foreign exchange	5,000,000	.01	50,000	100,000	100,000	150,000
(2) 4-year forward foreign exchange	6,000,000	.05	300,000	–120,000	0	300,000
(3) 3-year single-currency fixed- and floating-interest-rate swap	10,000,000	.005	50,000	200,000	200,000	250,000
(4) 6-month oil swap	10,000,000	.10	1,000,000	–250,000	0	1,000,000
(5) 7-year cross-currency floating and floating-interest-rate swap	20,000,000	.075	1,500,000	–1,500,000	0	1,500,000
TOTAL			2,900,000	+	300,000	3,200,000

Avoidance of Double Counting

In certain cases, credit exposures arising from derivative contracts may be reflected, in part, on the balance sheet. To avoid double counting these exposures in the assessment of capital adequacy and, perhaps, assigning inappropriate risk weights, examiners may need to exclude counterparty credit exposures arising from the derivative instruments covered by the guidelines from balance-sheet assets when calculating a banking organization's risk-based capital ratios. This exclusion will eliminate the possibility that an organization could be required to hold capital against both an off-balance-sheet and on-balance-sheet amount for the same item. This treatment is not accorded to margin accounts and accrued receivables related to interest-rate and exchange-rate contracts.

The aggregate on-balance-sheet amount excluded from the risk-based capital calculation is equal to the lower of—

- each contract's positive on-balance-sheet amount or
- its positive market value included in the off-balance-sheet risk-based capital calculation.

For example, a forward contract that is marked to market will have the same market value on the balance sheet as is used in calculating the credit-equivalent amount for off-balance-sheet exposures under the guidelines. Therefore, the on-balance-sheet amount is not included in the risk-based capital calculation. When either the contract's on-balance-sheet amount or its market value is negative or zero, no deduction from on-balance-sheet items is necessary for that contract.

If the positive on-balance-sheet asset amount exceeds the contract's market value, the excess (up to the amount of the on-balance-sheet asset) should be included in the appropriate risk-weight category. For example, a purchased option will often have an on-balance-sheet amount equal to the fee paid until the option expires. If that amount exceeds market value, the excess of carrying value over market value would be included in the appropriate risk-weight category for purposes of the on-balance-sheet portion of the calculation.

Netting of Swaps and Similar Contracts

Netting refers to the offsetting of positive and negative mark-to-market values in the determination of a current exposure to be used in the calculation of a credit-equivalent amount. Any legally enforceable form of bilateral netting (that is, netting with a single counterparty) of derivative contracts is recognized for purposes of calculating the credit-equivalent amount provided that—

- the netting is accomplished under a written netting contract that creates a single legal obligation, covering all included individual contracts, with the effect that the organization would have a claim to receive, or an obligation to receive or pay, only the net amount of the sum of the positive and negative mark-to-market values on included individual contracts if a counterparty, or a counterparty to whom the contract has been validly assigned, fails to perform due to default, insolvency, liquidation, or similar circumstances;
- the banking organization obtains written and reasoned legal opinions that in the event of a legal challenge—including one resulting from default, insolvency, liquidation, or similar circumstances—the relevant court and administrative authorities would find the banking organization's exposure to be such a net amount under—
  - — the law of the jurisdiction in which the counterparty is chartered or the equivalent location in the case of noncorporate entities, and if a branch of the counterparty is involved, then also under the law of the jurisdiction in which the branch is located;
  - — the law that governs the individual contracts covered by the netting contract; and
  - — the law that governs the netting contract;
- the banking organization establishes and maintains procedures to ensure that the legal characteristics of netting contracts are kept under review in light of possible changes in relevant law; and
- the banking organization maintains documentation in its files that is adequate to support the netting of rate contracts, including a copy of the bilateral netting contract and necessary legal opinions.

A contract containing a walkaway clause is not eligible for netting for purposes of calculating the credit-equivalent amount.

By netting individual contracts for the purpose of calculating credit-equivalent amounts of derivative contracts, a banking organization represents that it has met the requirements of the risk-based measure of the capital adequacy guidelines for bank holding companies and that all the appropriate documents are in the organization's files and available for inspection by the Federal Reserve. The Federal Reserve may determine that a banking organization's files are inadequate or that a netting contract, or any of its underlying individual contracts, may not be legally enforceable. If such a determination is made, the netting contract may be disqualified from recognition for risk-based capital purposes, or underlying individual contracts may be treated as though they are not subject to the netting contract.

The credit-equivalent amount of contracts that are subject to a qualifying bilateral netting contract is calculated by adding—

- the current exposure of the netting contract (net current exposure) and
- the sum of the estimates of the potential future credit exposures on all individual contracts subject to the netting contract (gross potential future exposure) adjusted to reflect the effects of the netting contract.

The net current exposure of the netting contract is determined by summing all positive and negative mark-to-market values of the individual contracts included in the netting contract. If the net sum of the mark-to-market values is positive, then the current exposure of the netting contract is equal to that sum. If the net sum of the mark-to-market values is zero or negative, then the current exposure of the netting contract is zero. The Federal Reserve may determine that a netting contract qualifies for risk-based capital netting treatment even though certain individual contracts may not qualify. In these instances, the nonqualifying contracts should be treated as individual contracts that are not subject to the netting contract.

Gross potential future exposure or A_{gross} is calculated by summing the estimates of potential future exposure for each individual contract subject to the qualifying bilateral netting contract. The effects of the bilateral netting contract on the gross potential future exposure are recognized through the application of a formula that results in an adjusted add-on amount (A_{net}). The formula, which employs the ratio of net current exposure to gross current exposure (NGR), is expressed as:

$$A_{net} = (0.4 \times A_{gross}) + 0.6(\text{NGR} \times A_{gross})$$

The NGR may be calculated in accordance with either the counterparty-by-counterparty approach or the aggregate approach. Under the counterparty-by-counterparty approach, the NGR is the ratio of the net current exposure for a netting contract to the gross current exposure of the netting contract. The gross current exposure is the sum of the current exposures of all individual contracts subject to the netting contract. Net negative mark-to-market values for individual netting contracts with the same counterparty may not be used to offset net positive mark-to-market values for other netting contracts with the same counterparty.

Under the aggregate approach, the NGR is the ratio of the sum of all the net current exposures for qualifying bilateral netting contracts to the sum of all the gross current exposures for those netting contracts (each gross current exposure is calculated in the same manner as in the counterparty-by-counterparty approach). Net negative mark-to-market values for individual counterparties may not be used to offset net positive current exposures for other counterparties.

A banking organization must consistently use either the counterparty-by-counterparty approach or the aggregate approach to calculate the NGR. Regardless of the approach used, the NGR should be applied individually to each qualifying bilateral netting contract to determine the adjusted add-on for that netting contract.

In the event a netting contract covers contracts that are normally excluded from the risk-based ratio calculation—for example, exchange-rate contracts with an original maturity of 14 or fewer calendar days or instruments traded on exchanges that require daily payment of cash variation margin—an institution may elect to either include or exclude all mark-to-market values of such contracts when determining net current exposure, provided the method chosen is applied consistently.

Examiners are to review the netting of off-balance-sheet derivative contractual arrangements used by banking organizations when calculating or verifying risk-based capital ratios

to ensure that the positions of such contracts are reported gross unless the net positions of those contracts reflect netting arrangements that comply with the netting requirements listed previously.

CAPITAL TREATMENT OF CREDIT DERIVATIVES

Credit derivatives are off-balance-sheet arrangements that allow one party (the beneficiary) to transfer credit risk of a reference asset—which the beneficiary may or may not own—to another party (the guarantor). Many banks increasingly use these instruments to manage their overall credit-risk exposure. In general, credit derivatives have three distinguishing features:

1. the transfer of the credit risk associated with a reference asset through contingent payments based on events of default and, usually, the prices of instruments before, at, and shortly after default (reference assets are most often traded sovereign and corporate debt instruments or syndicated bank loans)
2. the periodic exchange of payments or the payment of a premium rather than the payment of fees customary with other off-balance-sheet credit products, such as letters of credit
3. the use of an International Swap Derivatives Association (ISDA) master agreement and the legal format of a derivatives contract

For risk-based capital purposes, total-rate-of-return swaps and credit-default swaps generally should be treated as off-balance-sheet direct credit substitutes.[7] The notional amount of a contract should be converted at 100 percent to determine the credit-equivalent amount to be included in the risk-weighted assets of a guarantor.[8] A bank that provides a guarantee through a credit derivative transaction should assign its credit exposure to the risk category appropriate to the obligor of the reference asset or any collateral. On the other hand, a bank that owns the underlying asset upon which effective credit protection has been acquired through a credit derivative may, under certain circumstances, assign the unamortized portion of the underlying asset to the risk category appropriate to the guarantor (for example, the 20 percent risk category if the guarantor is an OECD bank).[9]

Whether the credit derivative is considered an eligible guarantee for purposes of risk-based capital depends on the degree of credit protection actually provided, which may be limited depending on the terms of the arrangement. For example, a relatively restrictive definition of a default event or a materiality threshold that requires a comparably high percentage of loss to occur before the guarantor is obliged to pay could effectively limit the amount of credit risk actually transferred in the transaction. If the terms of the credit derivative arrangement significantly limit the degree of risk transference, then the beneficiary bank cannot reduce the risk weight of the ''protected'' asset to that of the guarantor. On the other hand, even if the transfer of credit risk is limited, a banking organization providing limited credit protection through a credit derivative should hold appropriate capital against the underlying exposure while the organization is exposed to the credit risk of the reference asset.

Banking organizations providing a guarantee through a credit derivative may mitigate the credit risk associated with the transaction by entering into an offsetting credit derivative with another counterparty, a so-called ''back-to-back'' position. Organizations that have entered into such a position may treat the first credit derivative as guaranteed by the offsetting transaction for risk-based capital purposes. Accordingly, the notional amount of the first credit derivative may be assigned to the risk category appropriate to the counterparty providing credit protection through the offsetting credit derivative arrangement (for example, to the 20 percent risk category if the counterparty is an OECD bank).

In some instances, the reference asset in the credit derivative transaction may not be identical to the underlying asset for which the

7. Unlike total-rate-of-return swaps and credit-default swaps, credit-linked notes are on-balance-sheet assets or liabilities. A guarantor bank should assign the on-balance-sheet amount of the credit-linked note to the risk category appropriate to either the issuer or the reference asset, whichever is higher. For a beneficiary bank, cash consideration received in the sale of the note may be considered as collateral for risk-based capital purposes.

8. A guarantor bank that has made cash payments representing depreciation on reference assets may deduct such payments from the notional amount when computing credit-equivalent amounts for capital purposes.

9. In addition to holding capital against credit risk, a bank that is subject to the market-risk rule (see ''Market-Risk Measure,'' below) must hold capital against market risk for credit derivatives held in its trading account.

beneficiary has acquired credit protection. For example, a credit derivative used to offset the credit exposure of a loan to a corporate customer may use a publicly traded corporate bond of the customer as the reference asset, whose credit quality serves as a proxy for the on-balance-sheet loan. In such a case, the underlying asset will still generally be considered guaranteed for capital purposes as long as both the underlying asset and the reference asset are obligations of the same legal entity and have the same level of seniority in bankruptcy. In addition, banking organizations offsetting credit exposure in this manner would be obligated to demonstrate to examiners that there is a high degree of correlation between the two instruments; the reference instrument is a reasonable and sufficiently liquid proxy for the underlying asset so that the instruments can be reasonably expected to behave similarly in the event of default; and, at a minimum, the reference asset and underlying asset are subject to mutual cross-default provisions. A banking organization that uses a credit derivative which is based on a reference asset that differs from the protected underlying asset must document the credit derivative being used to offset credit risk and must link it directly to the asset or assets whose credit risk the transaction is designed to offset. The documentation and the effectiveness of the credit derivative transaction are subject to examiner review. Banking organizations providing credit protection through such arrangements must hold capital against the risk exposures that are assumed.

Some credit derivative transactions provide credit protection for a group or basket of reference assets and call for the guarantor to absorb losses on only the first asset in the group that defaults. Once the first asset in the group defaults, the credit protection for the remaining assets covered by the credit derivative ceases. If examiners determine that the credit risk for the basket of assets has effectively been transferred to the guarantor and the beneficiary banking organization owns all of the reference assets included in the basket, then the beneficiary may assign the asset with the smallest dollar amount in the group—if less than or equal to the notional amount of the credit derivative—to the risk category appropriate to the guarantor. Conversely, a banking organization extending credit protection through a credit derivative on a basket of assets must assign the contract's notional amount of credit exposure to the highest risk category appropriate to the assets in the basket. In addition to holding capital against credit risk, a bank that is subject to the market-risk rule (see below) must hold capital against market risk for credit derivatives held in its trading account. (For a description of market-risk capital requirements, see SR-97-18).

CAPITAL TREATMENT OF SYNTHETIC COLLATERALIZED LOAN OBLIGATIONS

Credit derivatives can be used to synthetically replicate collateralized loan obligations (CLOs). Banking organizations can use CLOs and their synthetic variants to manage their balance sheets and, in some instances, transfer credit risk to the capital markets. These transactions allow economic capital to be allocated more efficiently, resulting in, among other things, improved shareholders' returns. A CLO is an asset-backed security that is usually supported by a variety of assets, including whole commercial loans, revolving credit facilities, letters of credit, banker's acceptances, or other asset-backed securities. In a typical CLO transaction, the sponsoring banking organization transfers the loans and other assets to a bankruptcy-remote special-purpose vehicle (SPV), which then issues asset-backed securities consisting of one or more classes of debt. The CLO enables the sponsoring institution to reduce its leverage and risk-based capital requirements, improve its liquidity, and manage credit concentrations.

The first synthetic CLO issued in 1997 used credit-linked notes (CLNs).[10] Rather than transferring assets to the SPV, the sponsoring bank issued CLNs to the SPV, individually referencing the payment obligation of a particular company or ''reference obligor.'' In that particular transaction, the notional amount of the CLNs issued equaled the dollar amount of the reference assets the sponsor was hedging on its balance sheet. Since that time, other structures have evolved that also use credit-default swaps to transfer credit risk and create different levels of risk exposure, but that hedge only a portion of the notional amount of the overall reference

10. CLNs are obligations whose principal repayment is conditioned upon the performance of a referenced asset or portfolio. The assets' performance may be based on a variety of measures, such as movements in price or credit spread, or the occurrence of default.

portfolio. In most traditional CLO structures, assets are actually transferred into the SPV. In synthetic securitizations, the underlying exposures that make up the reference portfolio remain in the institution's banking book. The credit risk is transferred into the SPV through credit-default swaps or CLNs. In this way, the institution is able to avoid sensitive client-relationship issues arising from loan-transfer notification requirements, loan-assignment provisions, and loan-participation restrictions. Client confidentiality also can be maintained.

Under the risk-based capital guidelines, corporate credits are typically assigned to the 100 percent risk category and are assessed 8 percent capital. In the case of high-quality investment-grade corporate exposures, the 8 percent capital requirement may exceed the economic capital that a bank sets aside to cover the credit risk of the transaction. Clearly, one of the motivations behind CLOs and other securitizations is to more closely align the sponsoring institution's regulatory capital requirements with the economic capital required by the market. The introduction of synthetic CLOs has raised questions about their treatment for purposes of calculating the leverage and risk-based capital ratios of the Federal Reserve and other banking agencies.[11] In this regard, supervisors and examiners should consider the capital treatment of synthetic CLOs from the perspective of both investors and sponsoring banking organizations for three types of transactions: (1) the sponsoring banking organization, through a synthetic CLO, hedges the entire notional amount of a reference asset portfolio; (2) the sponsoring banking organization hedges a portion of the reference portfolio and retains a high-quality, senior risk position that absorbs only those credit losses in excess of the junior-loss positions; and (3) the sponsoring banking organization retains a subordinated position that absorbs first losses in a reference portfolio. Each of these transactions is explained more fully below.

Entire Notional Amount of the Reference Portfolio Hedged

In a synthetic securitization that hedges the entire notional amount of the reference portfolio, an SPV acquires the credit risk on a reference portfolio by purchasing CLNs issued by the sponsoring banking organization. The SPV funds the purchase of the CLNs by issuing a series of notes in several tranches to third-party investors. The investor notes are in effect collateralized by the CLNs. Each CLN represents one obligor and the bank's credit-risk exposure to that obligor, which may take the form of, for example, bonds, commitments, loans, and counterparty exposures. Since the noteholders are exposed to the full amount of credit risk associated with the individual reference obligors, all of the credit risk of the reference portfolio is shifted from the sponsoring bank to the capital markets. The dollar amount of notes issued to investors equals the notional amount of the reference portfolio. If there is a default of any obligor linked to a CLN in the SPV, the institution will call the individual note and redeem it based on the repayment terms specified in the note agreement. The term of each CLN is set such that the credit exposure to which it is linked matures before the maturity of the CLN. This ensures that the CLN will be in place for the full term of the exposure to which it is linked.

An investor in the notes issued by the SPV is exposed to the risk of default of the underlying reference assets, as well as to the risk that the sponsoring institution will not repay principal at the maturity of the notes. Because of the linkage between the credit quality of the sponsoring institution and the issued notes, a downgrade of the sponsor's credit rating most likely will result in the notes also being downgraded. Thus, a banking organization investing in this type of synthetic CLO should assign the notes to the higher of the risk categories appropriate to the underlying reference assets or the issuing entity.

For purposes of risk-based capital, the sponsoring banking organizations may treat the cash proceeds from the sale of CLNs that provide protection against underlying reference assets as cash collateralizing these assets.[12] This treatment would permit the reference assets, if carried on the sponsoring institution's books, to be

11. For more information, see SR-99-32, "Capital Treatment for Synthetic Collateralized Obligations."

12. The CLNs should not contain terms that would significantly limit the credit protection provided against the underlying reference assets, for example, a materiality threshold that requires a relatively high percentage of loss to occur before CLN payments are adversely affected, or a structuring of CLN post-default payments that does not adequately pass through credit-related losses on the reference assets to investors in the CLNs.

assigned to the zero percent risk category to the extent that their notional amount is fully collateralized by cash. This treatment may be applied even if the cash collateral is transferred directly into the general operating funds of the institution and is not deposited in a segregated account. The synthetic CLO would not confer any benefits to the sponsoring banking organization for purposes of calculating its tier 1 leverage ratio because the reference assets remain on the organization's balance sheet.

High-Quality, Senior Risk Position in the Reference Portfolio Retained

In some synthetic CLOs, the sponsoring banking organization uses a combination of credit-default swaps and CLNs to essentially transfer the credit risk of a designated portfolio of its credit exposures to the capital markets. This type of transaction allows the sponsoring institution to allocate economic capital more efficiently and to significantly reduce its regulatory capital requirements. In this structure, the sponsoring banking organization purchases default protection from an SPV for a specifically identified portfolio of banking-book credit exposures, which may include letters of credit and loan commitments. The credit risk on the identified reference portfolio (which continues to remain in the sponsor's banking book) is transferred to the SPV through the use of credit-default swaps. In exchange for the credit protection, the sponsoring institution pays the SPV an annual fee. The default swaps on each of the obligors in the reference portfolio are structured to pay the average default losses on all senior unsecured obligations of defaulted borrowers. To support its guarantee, the SPV sells CLNs to investors and uses the cash proceeds to purchase Treasury notes from the U.S. government. The SPV then pledges the Treasuries to the sponsoring banking organization to cover any default losses.[13] The CLNs are often issued in multiple tranches of differing seniority and in an aggregate amount that is significantly less than the notional amount of the reference portfolio. The amount of notes issued typically is set at a level sufficient to cover some multiple of expected losses, but well below the notional amount of the reference portfolio being hedged.

There may be several levels of loss in this type of synthetic securitization. The first-loss position may be a small cash reserve, sufficient to cover expected losses, that accumulates over a period of years and is funded from the excess of the SPV's income (that is, the yield on the Treasury securities plus the credit-default-swap fee) over the interest paid to investors on the notes. The investors in the SPV assume a second-loss position through their investment in the SPV's senior and junior notes, which tend to be rated AAA and BB, respectively. Finally, the sponsoring banking organization retains a high-quality, senior risk position that would absorb any credit losses in the reference portfolio that exceed the first- and second-loss positions. Typically, no default payments are made until the maturity of the overall transaction, regardless of when a reference obligor defaults. While operationally important to the sponsoring banking organization, this feature has the effect of ignoring the time value of money. Thus, when the reference obligor defaults under the terms of the credit derivative and the reference asset falls significantly in value, the sponsoring banking organization should, in accordance with generally accepted accounting principles, make appropriate adjustments in its regulatory reports to reflect the estimated loss relating to the time value of money.

For risk-based capital purposes, banking organizations investing in the notes must assign them to the risk weight appropriate to the underlying reference assets.[14] A banking organization sponsoring such a transaction must include in its risk-weighted assets its retained senior exposures in the reference portfolio, to the extent these are held in its banking book. The portion of the reference portfolio that is collateralized by the pledged Treasury securities may be assigned a zero percent risk weight. The remainder of the portfolio should be risk weighted according to the obligor of the exposures, unless certain stringent minimum conditions are met. When the sponsoring institution has virtually eliminated its credit-risk exposure to the reference portfolio through the issuance of CLNs, and when the other stringent minimum

13. The names of corporate obligors included in the reference portfolio may be disclosed to investors in the CLNs.

14. Under this type of transaction, if a structure exposes investing banking organizations to the creditworthiness of a substantive issuer (for example, the sponsoring institution), then the investing institutions should assign the notes to the higher of the risk categories appropriate to the underlying reference assets or the sponsoring institution.

requirements are met, the institution may assign the uncollateralized portion of its retained senior position in the reference portfolio to the 20 percent risk weight. To the extent that the reference portfolio includes loans and other balance-sheet assets in the banking book, a banking organization that sponsors this type of synthetic securitization would not realize any benefits with respect to the determination of its leverage ratio.

The stringent minimum requirements, which are discussed more fully in the annex to SR-99-32, include (1) the probability of loss on the retained senior position is extremely low due to the high credit quality of the reference portfolio and the amount of prior credit protection; (2) market discipline is injected into the process through the sale of CLNs into the market, the most senior of which must be rated AAA by a nationally recognized credit rating agency; and (3) the sponsoring institution performs rigorous and robust stress testing and demonstrates that the level of credit enhancement is sufficient to protect itself from losses under scenarios appropriate to the specific transaction. The Federal Reserve may impose other requirements as deemed necessary to ensure that the sponsoring institution has virtually eliminated all of its credit exposure. Furthermore, supervisors and examiners retain the discretion to increase the risk-based capital requirement assessed against the retained senior exposure in these structures, if the underlying asset pool deteriorates significantly.

Based on a qualitative review, Federal Reserve staff will determine on a case-by-case basis whether the senior retained portion of a sponsoring banking organization's synthetic securitization qualifies for the 20 percent risk weight. The sponsoring institution must be able to demonstrate that virtually all of the credit risk of the reference portfolio has been transferred from the banking book to the capital markets. As is the case with organizations engaging in more traditional securitization activities, examiners must carefully evaluate whether the institution is fully capable of assessing the credit risk it retains in its banking book and whether it is adequately capitalized given its residual risk exposure. Supervisors will require the sponsoring organization to maintain higher levels of capital if it is not deemed to be adequately capitalized given the retained residual risks. In addition, an institution sponsoring synthetic securitizations must adequately disclose to the marketplace the effect of the transaction on its risk profile and capital adequacy. A failure on the part of the sponsoring banking organization to require the investors in the CLNs to absorb the credit losses that they contractually agreed to assume may be considered an unsafe and unsound banking practice. In addition, this failure generally would constitute ''implicit recourse'' or support to the transaction that would result in the sponsoring banking organization losing the preferential capital treatment on its retained senior position.

If an organization sponsoring a synthetic securitization does not meet the stringent minimum criteria outlined in SR-99-32, it still may reduce the risk-based capital requirement on the senior risk position retained in the banking book by transferring the remaining credit risk to a third-party OECD bank through the use of a credit derivative. Provided the credit derivative transaction qualifies as a guarantee under the risk-based capital guidelines, the risk weight on the senior position may be reduced from 100 percent to 20 percent. Institutions may not enter into nonsubstantive transactions that transfer banking-book items into the trading account to obtain lower regulatory capital requirements.[15]

Retention of a First-Loss Position

In certain synthetic transactions, the sponsoring banking organization may retain the credit risk associated with a first-loss position and, through the use of credit-default swaps, pass the second- and senior-loss positions to a third-party entity, most often an OECD bank. The third-party entity, acting as an intermediary, enters into offsetting credit-default swaps with an SPV, thus transferring its credit risk associated with the second-loss position to the SPV.[16] As described in the second transaction type described above, the SPV then issues CLNs to the capital markets for a portion of the reference portfolio and purchases Treasury collateral to cover some

15. For instance, a lower risk weight would not be applied to a nonsubstantive transaction in which the sponsoring institution enters into a credit derivative to pass the credit risk of the senior retained portion held in its banking book to an OECD bank, and then enters into a second credit derivative transaction with the same OECD bank in which it reassumes into its trading account the credit risk initially transferred.

16. Because the credit risk of the senior position is not transferred to the capital markets but, instead, remains with the intermediary bank, the sponsoring banking organization should ensure that its counterparty is of high credit quality, for example, at least investment grade.

multiple of expected losses on the underlying exposures.

Two alternative approaches could be used to determine how the sponsoring banking organization should treat the overall transaction for risk-based capital purposes. The first approach employs an analogy to the low-level capital rule for assets sold with recourse. Under this rule, a transfer of assets with recourse that is contractually limited to an amount less than the effective risk-based capital requirements for the transferred assets is assessed a total capital charge equal to the maximum amount of loss possible under the recourse obligation. If this rule was applied to a sponsoring banking organization retaining a one percent first-loss position on a synthetically securitized portfolio that would otherwise be assessed 8 percent capital, the organization would be required to hold dollar-for-dollar capital against the one percent first-loss risk position. The sponsoring institution would not be assessed a capital charge against the second and senior risk positions.[17]

The second approach employs a literal reading of the capital guidelines to determine the sponsoring banking organization's risk-based capital charge. In this instance, the one percent first-loss position retained by the sponsoring institution would be treated as a guarantee, that is, a direct credit substitute, which would be assessed an 8 percent capital charge against its face value of one percent. The second-loss position, which is collateralized by Treasury securities, would be viewed as fully collateralized and subject to a zero percent capital charge. The senior-loss position guaranteed by the intermediary bank would be assigned to the 20 percent risk category appropriate to claims guaranteed by OECD banks.[18] It is possible that this approach may result in a higher risk-based capital requirement than the dollar-for-dollar capital charge imposed by the first approach—depending on whether the reference portfolio consists primarily of loans to private obligors, or undrawn long-term commitments. These commitments generally have an effective risk-based capital requirement that is one-half the requirement for loans, since they are converted to an on-balance-sheet credit-equivalent amount using the 50 percent conversion factor. If the reference pool consists primarily of drawn loans to commercial obligors, then the capital requirement on the senior-loss position would be significantly higher than if the reference portfolio contained only undrawn long-term commitments. As a result, the capital charge for the overall transaction could be greater than the dollar-for-dollar capital requirement set forth in the first approach.

Sponsoring institutions are required to hold capital against a retained first-loss position in a synthetic securitization. The capital should equal the higher of the two capital charges resulting from the sponsoring institution's application of the first and second approaches outlined above. Further, although the sponsoring banking organization retains only the credit-risk associated with the first-loss position, it still should continue to monitor all the underlying credit exposures of the reference portfolio to detect any changes in the credit-risk profile of the counterparties. This is important to ensure that the institution has adequate capital to protect against unexpected losses. Examiners should determine whether the sponsoring bank has the capability to assess and manage the retained risk in its credit portfolio after the synthetic securitization is completed. For risk-based capital purposes, banking organizations investing in the notes must assign them to the risk weight appropriate to the underlying reference assets.[19]

ASSESSING CAPITAL ADEQUACY AT LARGE, COMPLEX BANKING ORGANIZATIONS

Supervisors should place increasing emphasis on banking organizations' internal processes for

17. A banking organization that sponsors this type of synthetic securitization would not realize any benefits in the determination of its leverage ratio since the reference assets themselves remain on the sponsoring institution's balance sheet.

18. If the intermediary is a banking organization, then it could place both sets of credit-default swaps in its trading account and, if subject to the Federal Reserve's market-risk capital rules, use its general market-risk model and, if approved, specific-risk model to calculate the appropriate risk-based capital requirement. If the specific-risk model has not been approved, then the sponsoring banking organization would be subject to the standardized specific-risk capital charge.

19. Under this type of transaction, if a structure exposes investing banking organizations to the creditworthiness of a substantive issuer (for example, the sponsoring institution), then the investing institutions should assign the notes to the higher of the risk categories appropriate to the underlying reference assets or the sponsoring institution.

assessing risks and for ensuring that capital, liquidity, and other financial resources are adequate in relation to the organization's overall risk profiles. This emphasis is necessary in part because of the greater scope and complexity of business activities, particularly those related to ongoing financial innovation, at many banking organizations. In this setting, one of the most challenging issues bankers and supervisors face is how to integrate the assessment of an institution's capital adequacy with a comprehensive view of the risks it faces. Simple ratios—including risk-based capital ratios—and traditional ''rules of thumb'' no longer suffice in assessing the overall capital adequacy of many banking organizations, especially large institutions and others with complex risk profiles, such as those that are significantly engaged in securitizations or other complex transfers of risk.

Consequently, supervisors and examiners should evaluate internal capital-management processes to judge whether they meaningfully tie the identification, monitoring, and evaluation of risk to the determination of an institution's capital needs. The fundamental elements of a sound internal analysis of capital adequacy include measuring all material risks, relating capital to the level of risk, stating explicit capital adequacy goals with respect to risk, and assessing conformity to an institution's stated objectives. It is particularly important that large institutions and others with complex risk profiles be able to assess their current capital adequacy and future capital needs systematically and comprehensively, in light of their risk profiles and business plans. For more information, see SR-99-18, ''Assessing Capital Adequacy in Relation to Risk at Large Banking Organizations and Others with Complex Risk Profiles.''

The practices described in this subsection extend beyond those currently followed by most large banking organizations to evaluate their capital adequacy. Therefore, supervisors and examiners should not expect these institutions to immediately have in place a comprehensive internal process for assessing capital adequacy. Rather, examiners should look for efforts to initiate such a process and thereafter make steady and meaningful progress toward a comprehensive assessment of capital adequacy. Examiners should evaluate an institution's progress at each examination or inspection, considering progress relative to both the institution's former practice and its peers, and record the results of this evaluation in the examination or inspection report.

For those banking organizations actively involved in complex securitizations, other secondary-market credit activities, or other complex transfers of risk, examiners should expect a sound internal process for capital adequacy analysis to be in place immediately as a matter of safe and sound banking. Secondary-market credit activities generally include loan syndications, loan sales and participations, credit derivatives, and asset securitizations, as well as the provision of credit enhancements and liquidity facilities to such transactions. These activities are described further in SR-97-21, ''Risk Management and Capital Adequacy of Exposures Arising from Secondary-Market Credit Activities.''

Examiners should evaluate whether an organization is making adequate progress in assessing its capital needs on the basis of the risks arising from its business activities, rather than focusing its internal processes primarily on compliance with regulatory standards or comparisons with the capital ratios of peer institutions. In addition to evaluating an organization's current practices, supervisors and examiners should take account of plans and schedules to enhance existing capital-assessment processes and related risk-measurement systems, with appropriate sensitivity to transition timetables and implementation costs. Evaluation of adherence to schedules should be part of the examination and inspection process. Regardless of planned enhancements, supervisors should expect current internal processes for capital adequacy assessment to be appropriate to the nature, size, and complexity of an organization's activities, and to its process for determining the allowance for credit losses.

The results of the evaluation of internal processes for assessing capital adequacy should currently be reflected in the institution's ratings for management. Examination and inspection reports should contain a brief description of the internal processes involved in internal analysis of the adequacy of capital in relation to risk, an assessment of whether these processes are adequate for the complexity of the institution and its risk profile, and an evaluation of the institution's efforts to develop and enhance these processes. Significant deficiencies and inadequate progress in developing and maintaining capital-assessment procedures should be noted in examination and inspection reports. As noted above, examiners

should expect those institutions already engaged in complex activities involving the transfer of risk, such as securitization and related activities, to have sound internal processes for analyzing capital adequacy in place immediately as a fundamental component of safe and sound operation. As these processes develop and become fully implemented, supervisors and examiners should also increasingly rely on internal assessments of capital adequacy as an integral part of an institution's capital adequacy rating. If these internal assessments suggest that capital levels appear to be insufficient to support the risks taken by the institution, examiners should note this finding in examination and inspection reports, discuss plans for correcting this insufficiency with the institution's directors and management, and initiate supervisory actions, as appropriate.

Fundamental Elements of a Sound Internal Analysis of Capital Adequacy

Because risk-measurement and -management issues are evolving rapidly, it is currently neither possible nor desirable for supervisors to prescribe in detail the precise contents and structure of a sound and effective internal capital-assessment process for large and complex institutions. Indeed, the attributes of sound practice will evolve over time as methodologies and capabilities change, and will depend significantly on the individual circumstances of each institution. Nevertheless, a sound process for assessing capital adequacy should include four fundamental elements:

1. *Identifying and measuring all material risks.* A disciplined risk-measurement program promotes consistency and thoroughness in assessing current and prospective risk profiles, while recognizing that risks often cannot be precisely measured. The detail and sophistication of risk measurement should be appropriate to the characteristics of an institution's activities and to the size and nature of the risks that each activity presents. At a minimum, risk-measurement systems should be sufficiently comprehensive and rigorous to capture the nature and magnitude of risks faced by the institution, while differentiating risk exposures consistently among risk categories and levels. Controls should be in place to ensure objectivity and consistency and that all material risks, both on- and off-balance-sheet, are adequately addressed.

   Banking organizations should conduct detailed analyses to support the accuracy or appropriateness of the risk-measurement techniques used. Similarly, inputs used in risk measurement should be of good quality. Those risks not easily quantified should be evaluated through more subjective, qualitative techniques or through stress testing. Changes in an institution's risk profile should be incorporated into risk measures on a timely basis, whether the changes are due to new products, increased volumes or changes in concentrations, the quality of the bank's portfolio, or the overall economic environment. Thus, measurement should not be oriented to the current treatment of these transactions under risk-based capital regulations. When measuring risks, institutions should perform comprehensive and rigorous stress tests to identify possible events or changes in markets that could have serious adverse effects in the future. Institutions should also give adequate consideration to contingent exposures arising from loan commitments, securitization programs, and other transactions or activities that may create these exposures for the bank.
2. *Relating capital to the level of risk.* The amount of capital held should reflect not only the measured amount of risk, but also an adequate ''cushion'' above that amount to take account of potential uncertainties in risk measurement. A banking organization's capital should reflect the perceived level of precision in the risk measures used, the potential volatility of exposures, and the relative importance to the institution of the activities producing the risk. Capital levels should also reflect that historical correlations among exposures can rapidly change. Institutions should be able to demonstrate that their approach to relating capital to risk is conceptually sound and that outputs and results are reasonable. An institution could use sensitivity analysis of key inputs and peer analysis in assessing its approach. One credible method for assessing capital adequacy is for an institution to consider itself adequately capitalized if it meets a reasonable and objectively determined standard of financial health, tempered by sound judgment—for example, a target public-agency debt rating or even a

statistically measured maximum probability of becoming insolvent over a given time horizon. In effect, this latter method is the foundation of the Basel Accord's treatment of capital requirements for market foreign-exchange risk.

3. *Stating explicit capital adequacy goals with respect to risk.* Institutions need to establish explicit goals for capitalization as a standard for evaluating their capital adequacy with respect to risk. These target capital levels might reflect the desired level of risk coverage or, alternatively, a desired credit rating for the institution that reflects a desired degree of creditworthiness and, thus, access to funding sources. These goals should be reviewed and approved by the board of directors. Because risk profiles and goals may differ across institutions, the chosen target levels of capital may differ significantly as well. Moreover, institutions should evaluate whether their long-run capital targets might differ from short-run goals, based on current and planned changes in risk profiles and the recognition that accommodating new capital needs can require significant lead time.

   In addition, capital goals and the monitoring of performance against those goals should be integrated with the methodology used to identify the adequacy of the allowance for credit losses (the allowance). Although both the allowance and capital represent the ability to absorb losses, insufficiently clear distinction of their respective roles in absorbing losses can distort analysis of their adequacy. For example, an institution's internal standard of capital adequacy for credit risk could reflect the desire that capital absorb ''unexpected losses,'' that is, some level of potential losses in excess of that level already estimated as being inherent in the current portfolio and reflected in the allowance.[20] In this setting, an institution that does not maintain its allowance at the high end of the range of estimated credit losses would require more capital than would otherwise be necessary to maintain its overall desired capacity to absorb potential losses. Failure to recognize this relationship could lead an institution to overestimate the strength of its capital position.
4. *Assessing conformity to the institution's stated objectives.* Both the target level and composition of capital, along with the process for setting and monitoring such targets, should be reviewed and approved periodically by the institution's board of directors.

Risks Addressed in a Sound Internal Analysis of Capital Adequacy

Sound internal risk-measurement and capital-assessment processes should address the full range of risks faced by an institution. The four risks listed below do not represent an exhaustive list of potential issues that should be addressed. The capital regulations of the Federal Reserve and other U.S. banking agencies refer to many specific factors and other risks that institutions should consider in assessing capital adequacy.

- *Credit risk.* Internal credit-risk-rating systems are vital to measuring and managing credit risk at large banking organizations. Accordingly, a large institution's internal ratings system should be adequate to support the identification and measurement of risk for its lending activities and adequately integrated into the institution's overall analysis of capital adequacy. Well-structured credit-risk-rating systems should reflect implicit, if not explicit, judgments of loss probabilities or expected loss, and should be supported where possible by quantitative analyses. Definitions of risk ratings should be sufficiently detailed and descriptive, applied consistently, and regularly reviewed for consistency throughout the institution. SR-98-25, ''Sound Credit-Risk Management and the Use of Internal Credit-Risk Ratings at Large Banking Organizations,'' discusses the need for banks to have sufficiently detailed, consistent, and accurate risk ratings for all loans, not only for criticized or problem credits. It describes an emerging sound practice of incorporating such ratings information into internal capital frameworks, recognizing that riskier assets require higher capital levels.

  Banking organizations should also take full account of credit risk arising from securitiza-

20. In March 1999, the banking agencies and the Securities and Exchange Commission issued a joint interagency letter to financial institutions stressing that depository institutions should have prudent and conservative allowances that fall within an acceptable range of estimated losses. The Federal Reserve has issued additional guidance on credit-loss allowances to supervisors and bankers in SR-99-13, ''Recent Developments Regarding Loan-Loss Allowances.''

tion and other secondary-market credit activities, including credit derivatives. Maintaining detailed and comprehensive credit-risk measures is most necessary at institutions that conduct asset securitization programs, due to the potential of these activities to greatly change—and reduce the transparency of—the risk profile of credit portfolios. SR-97-21, ''Risk Management and Capital Adequacy of Exposures Arising from Secondary-Market Credit Activities,'' states that such changes have the effect of distorting portfolios that were previously ''balanced'' in terms of credit risk. As used here, the term ''balanced'' refers to the overall weighted mix of risks assumed in a loan portfolio by the current regulatory risk-based capital standard. This standard, for example, effectively treats the commercial loan portfolios of all banks as having ''typical'' levels of risk. The current capital standard treats most loans alike; consequently, banks have an incentive to reduce their regulatory capital requirements by securitizing or otherwise selling lower-risk assets, while increasing the average level of remaining credit risk through devices like first-loss positions and contingent exposures. It is important, therefore, that these institutions have the ability to assess their remaining risks and hold levels of capital and allowances for credit losses. These institutions are at the frontier of financial innovation, and they should also be at the frontier of risk measurement and internal capital allocation.

- *Market risk.* The current regulatory capital standard for market risk (see ''Market-Risk Measure,'' below) is based largely on a bank's own measure of value-at-risk (VAR). This approach was intended to produce a more accurate measure of risk and one that is also compatible with the management practices of banks. The market-risk standard also emphasizes the importance of stress testing as a critical complement to a mechanical VAR-based calculation in evaluating the adequacy of capital to support the trading function.
- *Interest-rate risk.* Interest-rate risk within the banking book (that is, in nontrading activities) should also be closely monitored. The banking agencies have emphasized that banks should carefully assess the risk to the economic value of their capital from adverse changes in interest rates. The ''Joint Policy Statement on Interest-Rate Risk,'' SR-96-13, provides guidance in this matter that includes the importance of assessing interest-rate risk to the economic value of a banking organization's capital and, in particular, sound practice in selecting appropriate interest-rate scenarios to be applied for capital adequacy purposes.
- *Operational and other risks.* Many banking organizations see operational risk—often viewed as any risk not categorized as credit or market risk—as second in significance only to credit risk. This view has become more widely held in the wake of recent, highly visible breakdowns in internal controls and corporate governance by internationally active institutions. Although operational risk does not easily lend itself to quantitative measurement, it can have substantial costs to banking organizations through error, fraud, or other performance problems. The great dependence of banking organizations on information technology systems highlights only one aspect of the growing need to identify and control this operational risk.

Examiner Review of Internal Analysis of Capital Adequacy

Supervisors and examiners should review internal processes for capital assessment at large and complex banking organizations, as well as the adequacy of their capital and their compliance with regulatory standards, as part of the regular supervisory process. In general, this review should assess the degree to which an institution has in place, or is making progress toward implementing, a sound internal process to assess capital adequacy as described above. Examiners should briefly describe in the examination or inspection report the approach and internal processes used by an institution to assess its capital adequacy with respect to the risks it takes. Examiners should then document their evaluation of the adequacy and appropriateness of these processes for the size and complexity of the institution, along with their assessment of the quality and timing of the institution's plans to develop and enhance its processes for evaluating capital adequacy with respect to risk. In all cases, the findings of this review should be considered in determining the institution's supervisory rating for management. Over time, this review should also become an integral element of assessing and assigning a supervisory rating for capital adequacy as the institution

develops appropriate processes for establishing capital targets and analyzing its capital adequacy as described above. If an institution's internal assessments suggest that capital levels appear to be insufficient to support its risk positions, examiners should note this finding in examination and inspection reports, discuss plans for correcting this insufficiency with the institution's directors and management, and, as appropriate, initiate follow-up supervisory actions.

Supervisors and examiners should assess the degree to which internal targets and processes incorporate the full range of material risks faced by a banking organization. Examiners should also assess the adequacy of risk measures used in assessing internal capital adequacy for this purpose, and the extent to which these risk measures are also used operationally in setting limits, evaluating business-line performance, and evaluating and controlling risk more generally. Measurement systems that are in place but are not integral to an institution's risk management should be viewed with some skepticism. Supervisors and examiners should review whether an institution treats similar risks across products and/or business lines consistently, and whether changes in the institution's risk profile are fully reflected in a timely manner. Finally, supervisors and examiners should consider the results of sensitivity analyses and stress tests conducted by the institution, and how these results relate to capital plans.

In addition to being in compliance with regulatory capital ratios, banking organizations should be able to demonstrate through internal analysis that their capital levels and composition are adequate to support the risks they face, and that these levels are properly monitored and reviewed by directors. Supervisors and examiners should review this analysis, including the target levels of capital chosen, to determine whether it is sufficiently comprehensive and relevant to the current operating environment. Supervisors and examiners should also consider the extent to which an institution has provided for unexpected events in setting its capital levels. In this connection, the analysis should cover a sufficiently wide range of external conditions and scenarios, and the sophistication of techniques and stress tests used should be commensurate with the institution's activities. Consideration of such conditions and scenarios should take appropriate account of the possibility that adverse events may have disproportionate effects on overall capital levels, such as the effect of tier 1 limitations, adverse capital-market responses, and other such magnification effects. Finally, supervisors should consider the quality of the institution's management information reporting and systems, the manner in which business risks and activities are aggregated, and management's record in responding to emerging or changing risks.

In performing this review, supervisors and examiners should be careful to distinguish between (1) a comprehensive process that seeks to identify an institution's capital requirements on the basis of measured economic risk, and (2) one that focuses only narrowly on the calculation and use of allocated capital (also known as ''economic value added'' or EVA) for individual products or business lines for internal profitability analysis. The latter approach, which measures the amount by which operations or projects return more or less than their cost of capital, can be important to an organization in targeting activities for future growth or cutbacks. However, it requires that the organization first determine by some method the amount of capital necessary for each activity or business line. Moreover, an EVA approach often is unable to meaningfully aggregate the allocated capital across business lines and risk types as a tool for evaluating the institution's overall capital adequacy. Supervisors and examiners should therefore focus on the first process above and should not be confused with related efforts of management to measure relative returns of the firm or of individual business lines, given an amount of capital already invested or allocated.

MARKET-RISK MEASURE

In August 1996, the Federal Reserve amended its risk-based capital framework to incorporate a measure for market risk. (See 12 CFR 208, appendix E, for state member banks and 12 CFR 225, appendix E, for bank holding companies.) As described more fully below, certain institutions with significant exposure to market risk must measure that risk using their internal value-at-risk (VAR) measurement model and, subject to parameters contained in the market-risk rules, hold sufficient levels of capital to cover the exposure. The market-risk amendment is a supplement to the credit risk-based capital rules: An institution applying the market-risk rules remains subject to the requirements of the

credit-risk rules, but must adjust its risk-based capital ratio to reflect market risk.[21]

Covered Banking Organizations

The market-risk rules apply to any insured state member bank or bank holding company whose trading activity (on a worldwide consolidated basis) equals (1) 10 percent or more of its total assets or (2) $1 billion or more. For purposes of these criteria, a banking organization's trading activity is defined as the sum of its trading assets and trading liabilities as reported in its most recent Consolidated Report of Condition and Income (call report) for a bank or in its most recent Y-9C report for a bank holding company. Total assets means quarter-end total assets as most recently reported by the institution. When addressing this capital requirement, bank holding companies should include any section 20 subsidiary as well as any other subsidiaries consolidated in their FR Y-9 reports.

In addition, on a case-by-case basis, the Federal Reserve may require an institution that does not meet the applicability criteria to comply with the market-risk rules if it deems it necessary for safety-and-soundness reasons, or may exclude an institution that meets the applicability criteria if its recent or current exposure is not reflected by the level of its ongoing trading activity. Institutions most likely to be exempted from this capital requirement are small banks whose reported trading activities exceed the 10 percent criterion but whose management of trading risks does not raise supervisory concerns. Such banks may be those whose trading activities focus on maintaining a market in local municipal securities, but who are not otherwise actively engaged in trading or position-taking activities. However, before making any exceptions to the criteria, Reserve Banks should consult with Board staff. An institution that does not meet the applicability criteria may, subject to supervisory approval, comply voluntarily with the market-risk rules. An institution applying the market-risk rules must have its internal-model and risk-management procedures evaluated by the Federal Reserve to ensure compliance with the rules.

21. An institution adjusts its risk-based capital ratio by removing certain assets from its credit-risk weight categories and, instead, including those assets (and others) in the measure for market risk.

Covered Positions

For supervisory purposes, a covered banking organization must hold capital to support its exposure to *general market risk* arising from fluctuations in interest rates, equity prices, foreign-exchange rates, and commodity prices, including risk associated with all derivative positions. In addition, capital must support its exposure to *specific risk* arising from changes in the market value of debt and equity positions in the trading account due to factors other than broad market movements, including the credit risk of an instrument's issuer. An institution's covered positions include all of its trading-account positions as well as all foreign-exchange and commodity positions, whether or not they are in the trading account.

For market-risk capital purposes, an institution's trading account is defined in the instructions to the banking agencies' call report. In general, the trading account includes on- and off-balance-sheet positions in financial instruments acquired with the intent to resell in order to profit from short-term price or rate movements (or other price or rate variations). All positions in the trading account must be marked to market and reflected in an institution's earnings statement. Debt positions in the trading account include instruments such as fixed or floating-rate debt securities, nonconvertible preferred stock, certain convertible bonds, or derivative contracts of debt instruments. Equity positions in the trading account include instruments such as common stock, certain convertible bonds, commitments to buy or sell equities, or derivative contracts of equity instruments. An institution may include in its measure for general market risk certain nontrading account instruments that it deliberately uses to hedge trading activities. Those instruments are not subject to a specific-risk capital charge, but instead continue to be included in risk-weighted assets under the credit-risk framework.

The market-risk capital charge applies to all of an institution's foreign-exchange and commodities positions. An institution's foreign-exchange positions include, for each currency, items such as its net spot position (including ordinary assets and liabilities denominated in a foreign currency), forward positions, guarantees that are certain to be called and likely to be unrecoverable, and any other items that react primarily to changes in exchange rates. An institution may, subject to examiner approval,

exclude from the market-risk measure any structural positions in foreign currencies. For this purpose, structural positions include transactions designed to hedge an institution's capital ratios against the effect of adverse exchange-rate movements on (1) subordinated debt, equity, or minority interests in consolidated subsidiaries and capital assigned to foreign branches that are denominated in foreign currencies, and (2) any positions related to unconsolidated subsidiaries and other items that are deducted from an institution's capital when calculating its capital base. An institution's commodity positions include all positions, including derivatives, that react primarily to changes in commodity prices.

Adjustment to the Risk-Based Capital Calculation

An institution applying the market-risk rules must measure its market risk and, on a daily basis, hold capital to maintain an overall minimum 8.0 percent ratio of total qualifying capital to risk-weighted assets adjusted for market risk.

An institution's risk-based capital ratio denominator is its adjusted credit-risk-weighted assets plus its market-risk-equivalent assets. Adjusted risk-weighted assets are risk-weighted assets, as determined under the credit-risk-based capital standards, less the risk-weighted amounts of all covered positions other than foreign-exchange positions outside the trading account and over-the-counter (OTC) derivatives. (In other words, an institution should not risk weight (or could risk weight at zero percent) any nonderivative debt, equity, or foreign-exchange positions in its trading account and any nonderivative commodity positions whether in or out of the trading account. These positions are no longer subject to a credit-risk capital charge.) An institution's market-risk-equivalent assets is its measure for market risk (determined as discussed in the following sections) multiplied by 12.5 (the reciprocal of the minimum 8.0 percent capital ratio).

An institution's measure for market risk is a VAR-based capital charge plus an add-on capital charge for specific risk. The VAR-based capital charge is the larger of either (1) the average VAR measure for the last 60 business days, calculated under the regulatory criteria and increased by a multiplication factor ranging from three to four, or (2) the previous day's VAR calculated under the regulatory criteria, but without the multiplication factor. An institution's multiplication factor is three unless its backtesting[22] results or supervisory judgment indicate that a higher factor or other action is appropriate.

An institution's risk-based capital ratio numerator consists of a combination of core (tier 1) capital; supplemental (tier 2) capital; and a third tier of capital (tier 3), which may only be used to meet market-risk capital requirements. To qualify as capital, instruments must be unsecured and may not contain or be covered by any covenants, terms, or restrictions that are inconsistent with safe and sound banking practices. Tier 3 capital is subordinated debt with an original maturity of at least two years. It must be fully paid up and subject to a lock-in clause that prevents the issuer from repaying the debt even at maturity if the issuer's capital ratio is, or with repayment would become, less than the minimum 8.0 percent risk-based capital ratio.

An institution must satisfy the overall conditions that at least 50 percent of its total qualifying capital must be tier 1 capital and term subordinated debt (excluding mandatory convertible debt), and intermediate term preferred stock (and related surplus) may not exceed 50 percent of tier 1 capital. In addition, an institution's tier 3 capital must not exceed 250 percent of its tier 1 capital allocated for market risk (that is, tier 3 capital is limited to 71.4 percent of the institution's measure for market risk).[23]

Internal Models

An institution applying the market-risk rules must use its internal model to measure its daily VAR in accordance with the rule's requirements. However, institutions can and will use different assumptions and modeling techniques when determining their VAR measures for internal

22. Beginning one year after an institution begins to apply the market-risk rules, it must begin "backtesting" its VAR measures generated for internal risk-management purposes against actual trading results to assist in evaluating the accuracy of its internal model.

23. The market-risk rules (12 CFR 208 appendix E, section 3(b)(2)) discuss "allocating" capital to cover credit risk and market risk. The allocation terminology is only relevant for the limit on tier 3 capital. Otherwise, as long as the 50 percent tier 1 and tier 2/tier 3 condition is satisfied, there is no requirement that an institution must allocate or identify its capital for credit or market risk.

risk-management purposes. These differences often reflect distinct business strategies and approaches to risk management. For example, an institution may calculate VAR using an internal model based on variance-covariance matrices, historical simulations, Monte Carlo simulations, or other statistical approaches. In all cases, however, the model must cover the institution's material risks.[24] Where shortcomings exist, the use of the model for the calculation of general market risk may be allowed, subject to certain conditions designed to correct deficiencies in the model within a given timeframe.

The market-risk rules do not specify modeling parameters for an institution's internal risk-management purposes. However, the rules do include minimum qualitative requirements for internal risk-management processes, as well as certain quantitative requirements for the parameters and assumptions for internal models used to measure market-risk exposure for regulatory capital purposes. Examiners should verify that an institution's risk-measurement model and risk-management system conform to the minimum qualitative and quantitative requirements discussed below.

Qualitative Requirements

The qualitative requirements reiterate several basic components of sound risk management discussed in earlier sections of this manual. For example, an institution must have a risk-control unit that reports directly to senior management and is independent from business-trading functions. The risk-control unit is expected to conduct regular backtests to evaluate the model's accuracy and conduct stress tests to identify the impact of adverse market events on the institution's portfolio. An in-depth understanding of the risk-control unit's role and responsibilities is completed through discussions with the institution's market-risk and senior management teams and through the review of documented policies and procedures. In addition, examiners should review the institution's organizational structure and risk-management committees and minutes. The review of committee minutes provides insights into the level of discussion of market-risk issues by senior management and, in some cases, by outside directors of the institution.

An institution must have an internal model that is fully integrated into its daily management, must have policies and procedures for conducting appropriate stress tests and backtests and for responding to the results of those tests, and must conduct independent reviews of its risk-management and -measurement systems at least annually. An institution should develop and use those stress tests appropriate to its particular situation. Thus, the market-risk rules do not include specific stress-test methodologies.

An institution's stress tests should be rigorous and comprehensive enough to cover a range of factors that could create extraordinary losses in a trading portfolio, or that could make the control of risk in a portfolio difficult. The review of stress testing is important, given that VAR-based models are designed to measure market risk in relatively stable markets (for example, at a 99 percent confidence interval, as prescribed in the market-risk amendment to the capital rules). However, sound risk-management practices require analyses of wider market conditions. Examiners should review the institution's policies and procedures for conducting stress tests and assess the timeliness and frequency of stress tests, the comprehensive capture of traded positions and parameters (for example, changes in risk factors), and the dissemination and use of testing results. Examiners should pay particular attention to whether stress tests result in an effective management tool for controlling exposure and their ''plausibility'' in relation to the institution's risk profile. Stress testing continues to be more of an art than a science, and the role of the examiner is to ensure that institutions have the appropriate capabilities, processes, and management oversight to conduct meaningful stress testing.

Stress tests should be both qualitative and quantitative, incorporate both market risk and liquidity aspects of market disturbances, and reflect the impact of an event on positions with either linear or nonlinear price characteristics. Examiners should assess whether banks are in a position to conduct three types of broad stress tests—those incorporating (1) historical events, using market data from the respective time periods; (2) hypothetical events, using ''market data'' constructed by the institution to model

24. For institutions using an externally developed or outsourced risk-measurement model, the model may be used for risk-based capital purposes provided it complies with the requirements of the market-risk rules, management fully understands the model, the model is integrated into the institution's daily risk management, and the institution's overall risk-management process is sound.

extreme market events that would pose a significant financial risk to the institution; and (3) institution-specific analysis, based on the institution's portfolios, that identifies key vulnerabilities. When stress tests reveal a particular vulnerability, the institution should take effective steps to appropriately manage those risks.

An institution's independent review of its risk-management process should include the activities of business-trading units and the risk-control unit. Examiners should verify that an institution's review includes assessing whether its risk-management system is fully integrated into the daily management process and whether the system is adequately documented. Examiner assessments of the integration of risk models into the daily market-risk-management process is a fundamental component of the review for compliance with the market-risk capital rule. As a starting point, examiners should review the risk reports that are generated by the institution's internal model to assess the ''stratification,'' or level of detail of information provided to different levels of management, from head traders to senior managers and directors. The review should evaluate the organizational structure of the risk-control unit and analyze the approval process for risk-pricing models and valuation systems. The institution's review should consider the scope of market risks captured by the risk-measurement model; accuracy and completeness of position data; verification of the consistency, timeliness, and reliability of data sources used to run the internal model; accuracy and appropriateness of volatility and correlation assumptions; and validity of valuation and risk-transformation calculations. Examiners should assess the degree to which the institution's methodology serves as the basis for trading limits allocated to the various trading-business units. Examiners should review this limit structure to assess its coverage of risk sensitivities within the trading portfolio. In addition, examiners should assess the limit-development and -monitoring mechanisms to ensure that positions versus limits and excessions are appropriately documented and approved.

In addition to formal reviews, examiners and specialist teams may hold regular discussions with institutions regarding their market-risk exposures and the methodologies they employ to measure and control these risks. These discussions enable supervisors to remain abreast of the institution's changes in methodology (for example, its treatment of nonlinear risks or its approach to stress testing) and its ongoing compliance with the market-risk capital rule. These discussions are particularly important during turbulent markets where exposures and capital may be affected by dramatic swings in market volatility.

In order to monitor compliance with the market-risk amendment and to further their understanding of market-risk exposures, supervisors should make quarterly requests to institutions subject to the market-risk amendment for the following information:

- total trading gain or loss for the quarter (net interest income from trading activities plus realized and unrealized trading gain or loss)
- average risk-based capital charge for market risk during the quarter
- market-risk capital charge for specific risk during the quarter
- market-risk capital charge for general risk during the quarter
- average one-day VAR for the quarter
- maximum one-day VAR for the quarter
- largest one-day loss during the quarter and the VAR for the preceding day
- the number of times the loss exceeded the one-day VAR during the quarter, and for each occurrence, the amount of the loss and the prior day's VAR
- the cause of backtesting exceptions, either by portfolio or major risk factor (for example, volatility in the S&P 500)
- the market-risk multiplier currently in use

If significant deficiencies are uncovered, examiners may require the institution's audit group to enhance the scope and independence of its market-risk review processes. If the audit or independent review function lacks expertise in this area, examiners may require that the institution outsource this review to a qualified independent consultant. Follow-up discussions are held with the institution once appropriate review scopes are developed and upon the completion of such reviews.

Quantitative Requirements

To ensure that an institution with significant market risk holds prudential levels of capital and

that regulatory capital charges for market risk are consistent across institutions with similar exposures, an institution's VAR measures must meet the following quantitative requirements:

- The VAR methodology must be commensurate with the nature and size of the institution's trading activities and risk profile. Because the capital rules do not prescribe a particular VAR methodology, the institution can use generally accepted techniques, such as variance-covariance, historical simulation, and Monte Carlo simulations.
- VAR measures must be computed each business day based on a 99 percent (one-tailed) confidence level of estimated maximum loss.
- VAR measures must be based on a price shock equivalent to a 10-day movement in rates and prices. The Federal Reserve believes that shorter periods do not adequately reflect the price movements that are likely during periods of market volatility and that they would significantly understate the risks embedded in options positions, which display nonlinear price characteristics. The Board recognizes, however, that it may be overly burdensome for institutions to apply precise 10-day price or rate movements to options positions at this time and, accordingly, will permit institutions to estimate one-day price movements using the ''square root of time'' approach.[25] As banks enhance their modeling techniques, examiners should consider whether they are making substantive progress in developing adequate and more robust methods for identifying nonlinear price risks. Such progress is particularly important at institutions with sizable options positions.
- VAR measures must be based on a minimum historical observation period of one year for estimating future price and rate changes. If historical market movements are not weighted evenly over the observation period, the weighted average for the observation period must be at least six months, which is equivalent to the average for the minimum one-year observation period.
- An institution must update its model data at least once every three months and more frequently if market conditions warrant.
- VAR measures may incorporate empirical correlations (calculated from historical data on rates and prices) both within and across broad risk categories, subject to examiner confirmation that the model's system for measuring such correlation is sound. If an institution's model does not incorporate empirical correlations across risk categories, then the institution must calculate the VAR measures by summing the separate VAR measures for the broad risk categories (that is, interest rates, equity prices, foreign-exchange rates, and commodity prices).

During the examination process, examiners should review an institution's risk-management process and internal model to ensure that it processes all relevant data and that modeling and risk-management practices conform to the parameters and requirements of the market-risk rule. When reviewing an internal model for risk-based capital purposes, examiners may consider reports and opinions about the accuracy of an institution's model that have been generated by external auditors or qualified consultants.

If a banking institution does not fully comply with a particular standard, examiners should review the banking institution's plan for meeting the requirement of the market-risk amendment. These reviews should be tailored to the institution's risk profile (for example, its level of options activity) and methodologies.

In reviewing the model's ability to capture optionality, examiners' reviews should identify the subportfolios in which optionality risk is present and review the flow of deal data to the risk model and the capture of higher-order risks (for example, gamma and vega) within VAR. Where options risks are not fully captured, the institutions should identify and quantify these risks and identify corrective-action plans to incorporate the risks. Examiners should review the calculation of volatilities (implied or historical), sources of this data (liquid or illiquid markets), and measurement of implied price volatility along varying strike prices. The understanding of the institution's determination of volatility smiles and skewness is a basic tenet in assessing a VAR model's reasonableness if optionality risk is material. Volatility smiles reflect the phenomenon that out-of-the-market and in-the-market options both have higher volatilities than at-the-market options. Volatility skew refers to the differential patterns of implied

25. For example, under certain statistical assumptions, an institution can estimate the 10-day price volatility of an instrument by multiplying the volatility calculated on one-day changes by the square root of 10 (approximately 3.16).

volatilities between out-of-the-market calls and out-of-the-market puts.

The examiners should review the institution's methodology for aggregating VAR estimates across the entire portfolio. The institution should have well-documented policies and procedures governing its aggregation process, including the use of correlation assumptions. The inspection of correlation assumptions is accomplished through a review of the institution's documented testing of correlation assumptions and select-transaction testing when individual portfolios are analyzed to gauge the effects of correlation assumptions. Although the summation of portfolio VARs is permitted under the capital rules, the aggregation of VAR measures generally overstates risk and may represent an ineffective risk-management tool. Examiners should encourage institutions to develop more rigorous and appropriate correlation estimates to arrive at a more meaningful portfolio VAR.

The aggregation processes utilized by banking institutions may also be subject to certain ''missing risks,'' resulting in an understatement of risk in the daily VAR. Examiners should understand the aggregation process through discussions with risk-management personnel and reviews of models-related documents. Examiners should identify key control points, such as timely updating and determination of correlation statistics, that may result in the misstatement of portfolio VAR.

Examiners should evaluate the institution's systems infrastructure and its ability to support the effective aggregation of risk across trading portfolios. They should also review the systems architecture to identify products that are captured through automated processes and those that are captured in spreadsheets or maintained in disparate systems. This review is important in order to understand the aggregation processes, including the application of correlations, and its impact on the timeliness and accuracy of risk-management reports.

Market-Risk Factors

For risk-based capital purposes, an institution's internal model must use risk factors that address market risk associated with interest rates, equity prices, exchange rates, and commodity prices, including the market risk associated with options in each of these risk categories. An institution may use the market-risk factors it has determined affect the value of its positions and the risks to which it is exposed. However, examiners should confirm that an institution is using sufficient risk factors to cover the risks inherent in its portfolio. For example, examiners should verify that interest-rate-risk factors correspond to interest rates in each currency in which the institution has interest-rate-sensitive positions. The risk-measurement system should model the yield curve using one of a number of generally accepted approaches, such as by estimating forward rates or zero-coupon yields, and should incorporate risk factors to capture spread risk. The yield curve should be divided into various maturity segments to capture variation in the volatility of rates along the yield curve. For material exposure to interest-rate movements in the major currencies and markets, modeling techniques should capture at least six segments of the yield curve.

The internal model should incorporate risk factors corresponding to individual foreign currencies in which the institution's positions are denominated, each of the equity markets in which the institution has significant positions (at a minimum, a risk factor should capture market-wide movements in equity prices), and each of the commodity markets in which the institution has significant positions. Risk factors should measure the volatilities of rates and prices underlying options positions. An institution with a large or complex options portfolio should measure the volatilities of options positions by different maturities. The sophistication and nature of the modeling techniques should correspond to the level of the institution's exposure.

Backtesting

One year after beginning to apply the market-risk rules, an institution will be required to backtest VAR measures that have been calculated for its internal risk-management purposes. The results of the backtests will be used to evaluate the accuracy of the institution's internal model, and may result in an adjustment to the institution's VAR multiplication factor used for calculating regulatory capital requirements. Specifically, the backtests must compare the institution's daily VAR measures calculated for internal purposes, calibrated to a one-day movement in rates and prices and a 99 percent

(one-tailed) confidence level, against the institution's actual daily net trading profit or loss for the past year (that is, the preceding 250 business days). In addition to recording daily gains and losses arising from changes in market valuations of the trading portfolio, net trading profits (or losses) may include items such as fees and commissions and earnings from bid/ask spreads. These backtests must be performed each quarter. Examiners should review the institution's backtesting results at both the portfolio and subportfolio (for example, business-line) levels. Although not required under the capital rules, subportfolio backtesting provides management and examiners with deeper insight into the causes of exceptions. It also gives examiners a framework within which to discuss with risk managers the adequacy of the institution's modeling assumptions as well as issues of position valuation and profit attribution at the business-line level. Examiners should review the profit-and-loss basis of the backtesting process, including actual trading profits and losses (that is, realized and unrealized profits or losses on end-of-day portfolio positions) and fee income and commissions associated with trading activities.

If the backtest reveals that an institution's daily net trading loss exceeded the corresponding VAR measure five or more times, the institution's multiplication factor should begin to increase—from three to as high as four if 10 or more exceptions are found. However, the decision regarding the specific size of any increase to the institution's multiplier may be tempered by examiner judgment and the circumstances surrounding the exceptions. In particular, special consideration may be granted for exceptions that produce abnormal changes in interest rates or exchange rates as a result of major political events or other highly unusual market events. Examiners may also consider factors such as the magnitude of an exception (that is, the difference between the VAR measure and the actual trading loss), and the institution's response to the exception. Examiners may determine that an institution does not need to increase its multiplication factor if it has taken adequate steps to address any modeling deficiencies or other actions that are sufficient to improve its risk-management process. The Federal Reserve will monitor industry progress in developing backtesting methodologies and may adjust the backtesting requirements in the future. Where the backtest reveals exceptions, examiners should review the institution's documentation of the size and cause of the exception and any corrective action taken to improve the assumptions or risk factor inputs underlying the VAR model.

Specific Risk

An institution may use its internal model to calculate specific risk if it can demonstrate that the model sufficiently captures the changes in market values for covered debt and equity instruments and related derivatives (for example, credit derivatives) due to factors other than broad market movements. These factors include idiosyncratic price variation and event/default risk. The capital rules also stipulate that the model should explain the historical price variation in the portfolio and capture potential concentrations, including magnitude and changes in composition. Finally, the model should be sufficiently robust to capture greater volatility due to adverse market conditions. If the bank's internal model cannot meet these requirements, the bank must use the standardized approach to measuring specific risk under the capital rules. The capital charge for specific risk may be determined either by applying standardized measurement techniques (the standardized approach) or using an institution's internal model.

Standardized Approach

Under the standardized approach, trading-account debt instruments are categorized as ''government,'' ''qualifying,'' or ''other,'' based on the type of obligor and, in the case of instruments such as corporate debt, on the credit rating and remaining maturity of the instrument. Each category has a specific-risk weighting factor. The specific-risk capital charge for debt positions is calculated by multiplying the current market value of each net long or short position in a category by the appropriate risk-weight factor. An institution must risk weight derivatives (for example, swaps, futures, forwards, or options on certain debt instruments) according to the relevant underlying instrument. For example, in a forward contract, an institution must risk weight the market value of the effective notional amount of the underlying instrument (or index portfolio). Swaps must be included as the notional position in the underlying debt instrument or index portfolio, with a

receiving side treated as a long position and a paying side treated as a short position. Options, whether long or short, are included by risk weighting the market value of the effective notional amount of the underlying instrument or index multiplied by the option's delta. An institution may net long and short positions in identical debt instruments with the same issuer, coupon, currency, and maturity. An institution may also net a matched position in a derivative instrument and the derivative's corresponding underlying instrument.

The government category includes general obligation debt instruments of central governments of OECD countries, as well as local currency obligations of non-OECD central governments to the extent the institution has liabilities booked in that currency. The risk-weight factor for the government category is zero percent. The qualifying category includes debt instruments of U.S. government–sponsored agencies, general obligation debt instruments issued by states and other political subdivisions of OECD countries, multilateral development banks, and debt instruments issued by U.S. depository institutions or OECD banks that do not qualify as capital of the issuing institution. Qualifying instruments also may be corporate debt and revenue instruments issued by states and political subdivisions of OECD countries that are (1) rated as investment grade by at least two nationally recognized credit-rating firms; (2) rated as investment grade by one nationally recognized credit-rating firm and not less than investment grade by any other credit-rating agency; or (3) if unrated and the issuer has securities listed on a recognized stock exchange, deemed to be of comparable investment quality by the reporting institution, subject to review by the Federal Reserve. The risk-weighting factors for qualifying instruments vary according to the remaining maturity of the instrument as set in table 3. Other debt instruments not included in the government or qualifying categories receive a risk weight of 8.0 percent.

Table 3—Specific-Risk Weighting Factors

Remaining Maturity	*Risk-Weight Factor*
6 months or less	0.25%
over 6 months to 24 months	1.00%
over 24 months	1.60%

The specific-risk charge for equity positions is based on an institution's gross equity position for each national market. Gross equity position is defined as the sum of all long and short equity positions, including positions arising from derivatives such as equity swaps, forwards, futures, and options. The current market value of each gross equity position is weighted by a designated factor, with the relevant underlying instrument used to determine risk weights of equity derivatives. For example, swaps are included as the notional position in the underlying equity instrument or index portfolio, with a receiving side treated as a long position and a paying side treated as a short position. Options, whether long or short, are included by risk weighting the market value of the effective notional amount of the underlying equity instrument or index multiplied by the option's delta. Long and short positions in identical equity issues or indexes may be netted. An institution may also net a matched position in a derivative instrument and its corresponding underlying instrument.

The specific-risk charge is 8.0 percent of the gross equity position, unless the institution's portfolio is both liquid and well diversified, in which case the capital charge is 4.0 percent. A portfolio is liquid and well diversified if (1) it is characterized by a limited sensitivity to price changes of any single equity or closely related group of equity issues; (2) the volatility of the portfolio's value is not dominated by the volatility of equity issues from any single industry or economic sector; (3) it contains a large number of equity positions, with no single position representing a substantial portion of the portfolio's total market value;[26] and (4) it consists mainly of issues traded on organized exchanges or in well-established over-the-counter markets.

26. For practical purposes, examiners may interpret "substantial" as meaning more than 5 percent.

For positions in an index comprising a broad-based, diversified portfolio of equities, the specific-risk charge is 2.0 percent of the net long or short position in the index. In addition, a 2.0 percent specific-risk charge applies to only one side (long or short) in the case of certain futures-related arbitrage strategies (for instance, long and short positions in the same index at different dates or in different market centers, and long and short positions at the same date in different, but similar indexes). Finally, under certain conditions, futures positions on a broad-based index that are matched against positions in the equities composing the index are subject to a specific-risk charge of 2.0 percent against each side of the transaction.

Internal-Models Approach

Institutions using models will be permitted to base their specific-risk capital charge on modeled estimates if they meet all of the qualitative and quantitative requirements for general risk models as well as the additional criteria set out below. Institutions which are unable to meet these additional criteria will be required to base their specific-risk capital charge on the full amount of the standardized specific-risk charge. Conditional permission for the use of specific-risk models is discouraged. Institutions should use the standardized approach for a particular portfolio until they have fully developed a model to accurately measure the specific risk inherent in that portfolio.

The criteria for applying modeled estimates of specific risk require that an institution's model—

- explain the historical price variation in the portfolio;[27]
- demonstrably capture concentration (magnitude and changes in composition);[28]
- be robust to an adverse environment;[29] and
- be validated through backtesting aimed at assessing whether specific risk is being accurately captured.

In addition, the institution must be able to demonstrate that it has methodologies in place which allow it to adequately capture event and default risk for its trading positions. In assessing the model's robustness, examiners review the banking institution's testing of the model, including regression analysis testing (that is, ''goodness-of-fit''), stress-test simulations of ''shocked'' market conditions, and changing credit-cycle conditions. Examiners evaluate the scope of testing (for example, what factors are shocked and to what degree, and what the resultant changes in risk exposures are), the number of tests completed, and the results of these tests. If testing is deemed insufficient or the results are unclear, the banking institution is expected to address these concerns before supervisory recognition of the model.

As previously noted, the review of these models is conducted after supervisory recognition of the banking institution's general market-risk methodology. The examiner reviews are generally conducted on a subportfolio basis (for example, investment-grade corporate debt, credit derivatives, etc.), with a focus on the modeling methodology, validation, and backtesting process. The portfolio-level approach addresses the case in which a banking institution's model adequately captures specific risk within its investment-grade corporate-debt portfolio but not within its high-yield corporate-debt portfolio. In this case, the banking institution would generally be granted internal-models treatment for the investment-grade debt portfolio while continuing to apply the standardized approach for its high-yield debt portfolio.

27. The key ex ante measures of model quality are ''goodness-of-fit'' measures which address the question of how much of the historical variation in price value is explained by the model. One measure of this type which can often be used is an R-squared measure from regression methodology. If this measure is to be used, the institution's model would be expected to be able to explain a high percentage, such as 90 percent, of the historical price variation or to explicitly include estimates of the residual variability not captured in the factors included in this regression. For some types of models, it may not be feasible to calculate a goodness-of-fit measure. In such an instance, a bank is expected to work with its national supervisor to define an acceptable alternative measure which would meet this regulatory objective.

28. The institution would be expected to demonstrate that the model is sensitive to changes in portfolio construction and that higher capital charges are attracted for portfolios that have increasing concentrations.

29. The institution should be able to demonstrate that the model will signal rising risk in an adverse environment. This could be achieved by incorporating in the historical estimation period of the model at least one full credit cycle and ensuring that the model would not have been inaccurate in the downward portion of the cycle. Another approach for demonstrating this is through simulation of historical or plausible worst-case environments.

Examiner assessments of the adequacy of a banking institution's specific-risk modeling address the following major points:

- the type, size, and composition of the modeled portfolio and other relevant information (for example, market data)
- the VAR-based methodology and relevant assumptions applicable to the modeled portfolio and a description of how it captures the key specific-risk areas—idiosyncratic variation and event and default risk
- the backtesting analysis performed by the banking institution that demonstrates the model's ability to capture specific risk within the identified portfolio (This backtesting is specific to the modeled portfolio, not the entire trading portfolio.)
- additional testing (for example, stress testing) performed by the banking institution to demonstrate the model's performance under market-stress events

Institutions which meet the criteria set out above for models but that do not have methodologies in place to adequately capture event and default risk will be required to calculate their specific-risk capital charge based on the internal-model measurements plus an additional prudential surcharge as defined in the following paragraph. The surcharge is designed to treat the modeling of specific risk on the same basis as a general market-risk model that has proven deficient during backtesting. That is, the equivalent of a scaling factor of four would apply to the estimate of specific risk until such time as an institution can demonstrate that the methodologies it uses adequately capture event and default risk. Once an institution is able to demonstrate this, the minimum multiplication factor of three can be applied. However, a higher multiplication factor of four on the modeling of specific risk would remain possible if future backtesting results were to indicate a serious deficiency with the model.

For institutions applying the surcharge, the total of the market-risk capital requirement will equal a minimum of three times the internal model's general- and specific-risk measure plus a surcharge in the amount of either—

- the specific-risk portion of the value-at-risk measure which should be isolated according to supervisory guidelines[30] or
- the value-at-risk measures of subportfolios of debt and equity positions that contain specific risk.[31]

Institutions using the second option are required to identify their subportfolio structure ahead of time and should not change it without supervisory consent.

Institutions which apply modeled estimates of specific risk are required to conduct backtesting aimed at assessing whether specific risk is being accurately captured. The methodology an institution should use for validating its specific-risk estimates is to perform separate backtests on subportfolios using daily data on subportfolios subject to specific risk. The key subportfolios for this purpose are traded-debt and equity positions. However, if an institution itself decomposes its trading portfolio into finer categories (for example, emerging markets or traded corporate debt), it is appropriate to keep these distinctions for subportfolio backtesting pur-

30. Techniques for separating general market risk and specific risk would include the following:

Equities

- The market should be identified with a single factor that is representative of the market as a whole, for example, a widely accepted, broadly based stock index for the country concerned.
- Institutions that use factor models may assign one factor of their model, or a single linear combination of factors, as their general-market-risk factor.

Bonds

- The market should be identified with a reference curve for the currency concerned. For example, the curve might be a government bond yield curve or a swap curve; in any case, the curve should be based on a well-established and liquid underlying market and should be accepted by the market as a reference curve for the currency concerned.

Institutions may select their own technique for identifying the specific-risk component of the value-at-risk measure for purposes of applying the multiplier of four. Techniques would include—

- using the incremental increase in value-at-risk arising from the modeling of specific-risk factors;
- using the difference between the value-at-risk measure and a measure calculated by substituting each individual equity position by a representative index; or
- using an analytic separation between general market risk and specific risk implied by a particular model.

31. This would apply to subportfolios containing positions that would be subject to specific risk under the standardized-based approach.

poses. Institutions are required to commit to a subportfolio structure and stick to it unless it can be demonstrated to the supervisor that it would make sense to change the structure.

Institutions are required to have in place a process to analyze exceptions identified through the backtesting of specific risk. This process is intended to serve as the fundamental way in which institutions correct their models of specific risk if they become inaccurate. Models that incorporate specific risk are presumed unacceptable if the results at the subportfolio level produce 10 or more exceptions. Institutions with unacceptable specific-risk models are expected to take immediate action to correct the problem in the model and ensure that there is a sufficient capital buffer to absorb the risk that the backtest showed had not been adequately captured.

Examiners must confirm with the institution that its model incorporates specific risk for both debt and equity positions. For instance, if the model addressed the specific risk of debt positions but not equity positions, then the institution could use the model-based specific-risk charge (subject to the limitation described earlier) for debt positions, but must use the full standard specific-risk charge for equity positions.

The securities and financial contracts that make up an institution's trading portfolio are generally marked to market, and gains or losses on the positions are recognized in the current period's income. A single class of financial instrument that can meet trading, investment, or hedging objectives may have a different accounting treatment applied to it depending on management's purpose for holding it. Therefore, an examiner reviewing trading activities should be familiar with the different accounting methods to ensure that the particular accounting treatment being used is appropriate for the purpose of holding a financial instrument and the economic substance of the related transaction.

The accounting principles that apply to securities portfolios, including trading accounts, and off-balance-sheet (OBS) derivative instruments are complex; their authoritative standards and related banking practices have evolved over time. This section summarizes the major aspects of the accounting principles for trading and derivative activities for both financial and regulatory reporting purposes. Accordingly, this section does not set forth new accounting policies or list or explain the detailed line items of financial reports that must be reported for securities portfolios or OBS derivative instruments in financial reports. Examiners should consult the sources of generally accepted accounting principles (GAAP) and regulatory reporting requirements that are referred to in this section for more detailed guidance.

Examiners should be aware that accounting practices in foreign countries may differ from those followed in the United States. Nevertheless, foreign institutions are required to submit regulatory reports prepared in accordance with regulatory reporting instructions for U.S. banking agencies, which are generally consistent with GAAP. This section will focus on reporting requirements of the United States.

The major topics covered in this section are listed below. The discussion of specific types of balance-sheet instruments (such as securities) and OBS derivative instruments (for example, swaps, futures, forwards, and options) is interwoven with these discussions.

- sources of GAAP accounting standards and regulatory reporting requirements
- the broad framework for accounting for securities portfolios, including the general framework for trading activities
- general framework for OBS derivative instruments, including hedges
- specific accounting principles for OBS derivative instruments, including domestic futures; foreign-currency OBS instruments; forward contracts (domestic), including forward rate agreements; interest-rate swaps; and options

ACCOUNTING STANDARDS

The Federal Reserve has long viewed accounting standards as a necessary step to efficient market discipline and bank supervision. Accounting standards provide the foundation for credible and comparable financial statements and other financial reports. Accurate information, reported in a timely manner, provides a basis for the decisions of market participants. The effectiveness of market discipline, to a very considerable degree, rests on the quality and timeliness of reported financial information.

Financial statements and regulatory financial reports perform a critical role for depository-institution supervisors. Supervisory agencies have monitoring systems in place which enable them to follow, off-site, the financial developments at depository institutions. When reported financial information indicates that an institution's financial condition has deteriorated, these systems can signal the need for on-site examinations and any other appropriate actions. In short, the better the quality of reported financial information from institutions, the greater the ability of agencies to monitor and supervise effectively.

Accounting Principles for Financial Reporting

Financial statements provide information needed to evaluate an institution's financial condition and performance. GAAP must be followed for financial-reporting purposes—that is, for annual and quarterly published financial statements. The standards in GAAP for trading activities and OBS derivative instruments are based on pronouncements issued by the Financial Accounting Standards Board (FASB); the American

Institute of Certified Public Accountants (AICPA); and, for publicly traded companies, the Securities and Exchange Commission (SEC). GAAP pronouncements usually take the following forms, and their abbreviations are noted in table 1.

Table 1—GAAP Pronouncements and Abbreviations

Source	*Major Pronouncements*
FASB	Statements of Financial Accounting Standards (SFAS) FASB Interpretations (FIN) Technical Bulletins (TB)
AICPA	Audit and Accounting Guides Industry Audit Guides Statements of Position (SOP) Accounting Interpretations Issues Papers*
SEC	Financial Reporting Releases (FRR) Regulation S-X Guide 3 to Regulation S-X, Article 9 Staff Accounting Bulletins (SAB)
Emerging Issues Task Force (EITF)	Consensus positions by a group of leading accountants from industry and the accounting profession

* These are generally nonauthoritative.

The SEC requires publicly traded banking organizations and other public companies to follow GAAP in preparing their form 10-Ks, annual reports, and other SEC financial reports. These public companies must also follow special reporting requirements mandated by the SEC, such as the guidance listed above, when preparing their financial reports.

Accounting Principles for Regulatory Reporting

Currently, state member banks are subject to two main regulatory requirements to file financial statements with the Federal Reserve. One requirement involves financial statements and other reports that are filed with the Board by state member banks that are subject to the reporting requirements of the SEC.[1] The other requirement involves the regulatory financial statements for state member banks, other federally insured commercial banks, and federally insured savings banks—the Reports of Condition and Income, commonly referred to as call reports. The call reports, the form and content of which are developed by the Federal Financial Institutions Examination Council (FFIEC), are currently required to be filed in a manner generally consistent with GAAP.[2] For purposes of preparing the call reports, the guidance in the instructions (including related glossary items) to the Reports of Condition and Income should be followed. U.S. banking agencies require foreign banking organizations operating in the United States to file regulatory financial reports prepared in accordance with relevant regulatory reporting instructions.

Various Y-series reports submitted to the Federal Reserve by bank holding companies have long been prepared in accordance with GAAP. Since 1994, section 112 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) mandates that state member banks with total consolidated assets of $500 million or more have to submit to the Federal Reserve annual reports containing audited financial statements prepared in accordance with GAAP. Alternatively, the financial-statement requirement can be satisfied by filing consolidated financial statements of the bank holding company. Thus, the summary of GAAP that follows will be relevant for purposes of (1) financial statements of state member banks and bank holding companies, (2) call reports of banks,

1. Generally, pursuant to section 12(b) or 12(g) of the Securities Exchange Act of 1934, state member banks whose securities are subject to registration are required to file with the Federal Reserve Board annual reports, quarterly financial statements, and other financial reports that conform with SEC reporting requirements.

2. The importance of accounting standards for regulatory reports is recognized by section 121 of the Federal Deposit Insurance Corporation Act of 1991. Section 121 requires that accounting principles applicable to regulatory financial reports filed by federally insured banks and thrifts with their federal banking agency must be consistent with generally accepted accounting principles (GAAP). However, under section 121, a federal banking agency *may* require institutions to use accounting principles "no less stringent than GAAP" when the agency determines that GAAP does not meet supervisory objectives.

(3) Y-series reports of bank holding companies, and (4) the section 112 annual reports of state member banks and bank holding companies.

ACCOUNTING FOR SECURITIES PORTFOLIOS

Treatment under FASB Statement No. 115

Statement of Financial Accounting Standard (SFAS) No. 115, ''Accounting for Certain Investments in Debt and Equity Securities,'' as amended by SFAS 125, ''Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities,'' is the authoritative guidance for accounting for equity securities that have readily determinable fair values and for all debt securities.[3] Investments subject to SFAS 115 are to be classified in three categories and accounted for as follows:

- *Held-to-maturity account.* Debt securities that the institution has the positive intent and ability to hold to maturity are classified as held-to-maturity securities and reported at amortized cost. SFAS 125 amended SFAS 115 to require that securities that can contractually be prepaid or otherwise settled in such a way that the holder of the security would not recover substantially all of its recorded investment must be recorded as either available-for-sale or trading. Reclassifications of held-to-maturity securities as a result of the initial application of SFAS 125 would not call into question an entity's intent to hold other securities to maturity in the future.
- *Trading account.* Debt and equity securities that are bought and held principally for the purpose of selling them in the near term are classified as trading securities and reported at fair value, with unrealized gains and losses included in earnings. Trading generally reflects active and frequent buying and selling, and trading securities are generally used with the objective of generating profits on short-term differences in price.
- *Available-for-sale account.* Debt and equity securities not classified as either held-to-maturity securities or trading securities are classified as available-for-sale securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported as a net amount in a separate component of shareholders' equity.

Under SFAS 115, mortgage-backed securities that are held for sale in conjunction with mortgage banking activities should be reported at fair value in the trading account. SFAS 115 does not apply to loans, including mortgage loans, that have not been securitized.

Upon the acquisition of a debt or equity security, an institution must place the security into one of the above three categories. At each reporting date, the institution must reassess whether the balance-sheet classification[4] continues to be appropriate.

Proper classification of securities is a key examination issue. As stated above, instruments that are intended to be held principally for the purpose of selling them in the near term should be classified as trading assets. Reporting securities held for trading purposes as available-for-sale or held-to-maturity would result in the improper deferral of unrealized gains and losses from earnings and regulatory capital. Accordingly, examiners should scrutinize institutions that exhibit a pattern or practice of selling securities from the available-for-sale or held-to-maturity accounts after a short-term holding

3. SFAS 115 does not apply to investments in equity securities accounted for under the equity method nor to investments in consolidated subsidiaries. This statement does not apply to institutions whose specialized accounting practices include accounting for substantially all investments in debt and equity securities at market value or fair value, with changes in value recognized in earnings (income) or in the change in net assets. Examples of those institutions are brokers and dealers in securities, defined benefit pension plans, and investment companies.

SFAS 115 states that the fair value of an equity security is readily determinable if sales prices or bid-and-asked quotations are currently available on a securities exchange registered with the SEC or in the over-the-counter market, provided that those prices or quotations for the over-the-counter market are publicly reported by the National Association of Securities Dealers' automated quotation systems or by the National Quotation Bureau. Restricted stock does not meet that definition.

The fair value of an equity security traded only in a foreign market is readily determinable if that foreign market is of a breadth and scope comparable to one of the U.S. markets referred to above. The fair value of an investment in a mutual fund is readily determinable if the fair value per share (unit) is determined and published and is the basis for current transactions.

4. In this context, ''classification'' refers to the security's balance-sheet category, not the credit quality of the asset.

period, particularly if significant amounts of losses on securities in these accounts have not been recognized.

SFAS 115 recognizes that certain changes in circumstances may cause the institution to change its intent to hold a certain security to maturity without calling into question its intent to hold other debt securities to maturity in the future. Thus, the sale or transfer of a held-to-maturity security due to one of the following changes in circumstances will not be viewed as inconsistent with its original balance-sheet classification:

- evidence of a significant deterioration in the issuer's creditworthiness
- a change in tax law that eliminates or reduces the tax-exempt status of interest on the debt security (but not a change in tax law that revises the marginal tax rates applicable to interest income)
- a major business combination or major disposition (such as the sale of a segment) that necessitates the sale or transfer of held-to-maturity securities to maintain the institution's existing interest-rate risk position or credit-risk policy
- a change in statutory or regulatory requirements significantly modifying either what constitutes a permissible investment or the maximum level of investments in certain kinds of securities, thereby causing an institution to dispose of a held-to-maturity security
- a significant increase by the regulator in the industry's capital requirements that causes the institution to downsize by selling held-to-maturity securities
- a significant increase in the risk weights of debt securities used for regulatory risk-based capital purposes.

Furthermore, SFAS 115 recognizes other events that are isolated, nonrecurring, and unusual for the reporting institution and that could not have been reasonably anticipated may cause the institution to sell or transfer a held-to-maturity security without necessarily calling into question its intent to hold other debt securities to maturity. EITF 96-10, as amended by SFAS 125, provides that transactions that are not accounted for as sales under SFAS 125 would not contradict the entity's intent to hold that security, or any other securities, to maturity. (See paragraph nine of SFAS 125 for additional guidance on criteria which would require such transactions to be accounted for as sales.) However, all sales and transfers of held-to-maturity securities must be disclosed in the footnotes to the financial statements.

An institution must not classify a debt security as held-to-maturity if the institution intends to hold the security for only an indefinite period. Consequently, a debt security should not, for example, be classified as held-to-maturity if the banking organization or other company anticipates that the security would be available to be sold in response to[5]—

- changes in market interest rates and related changes in the security's prepayment risk,
- needs for liquidity (for example, due to the withdrawal of deposits, increased demand for loans, surrender of insurance policies, or payment of insurance claims),
- changes in the availability of and the yield on alternative investments,
- changes in funding sources and terms, and
- changes in foreign-currency risk.

According to SFAS 115, an institution's asset-liability management may consider the maturity and repricing characteristics of all investments in debt securities, including those held to maturity or available for sale, without tainting or casting doubt on the standard's criterion that there be a "positive intent to hold until maturity." However, to demonstrate its ongoing intent and ability to hold the securities to maturity, management should designate the held-to-maturity securities as not available for sale for purposes of the ongoing adjustments that are a necessary part of its asset-liability management. Further, liquidity can be derived from the held-to-maturity category by the use of repurchase agreements that are classified as financings, but not sales.

Transfers of a security between investment categories should be accounted for at fair value.

5. In summary, under SFAS 115, sales of debt securities that meet either of the following two conditions may be considered as "maturities" for purposes of the balance-sheet classification of securities: (1) The sale of a security occurs near enough to its maturity date (or call date if exercise of the call is probable)—for example, within three months—that interest-rate risk has been substantially eliminated as a pricing factor. (2) The sale of a security occurs after the institution has already collected at least 85 percent of the principal outstanding at acquisition from either prepayments or scheduled payments on a debt security payable in equal installments over its term (variable-rate securities do not need to have equal payments).

SFAS 115 requires that, at the date of transfer, the security's unrealized holding gain or loss must be accounted for as follows:

- For a security transferred from the trading category, the unrealized holding gain or loss at the date of transfer will already have been recognized in earnings and should not be reversed.
- For a security transferred into the trading category, the unrealized holding gain or loss at the date of transfer should be recognized in earnings immediately.
- For a debt security transferred into the available-for-sale category from the held-to-maturity category, the unrealized holding gain or loss at the date of transfer should be recognized in a separate component of shareholders' equity.
- For a debt security transferred into the held-to-maturity category from the available-for-sale category, the unrealized holding gain or loss at the date of transfer should continue to be reported in a separate component of shareholders' equity, but should be amortized over the remaining life of the security as an adjustment of its yield in a manner consistent with the amortization of any premium or discount.

Transfers from the held-to-maturity category should be rare, except for transfers due to the changes in circumstances that were discussed above. According to the standard, transfers into or from the trading category should also be rare.

SFAS 115 requires that institutions determine whether a decline in fair value below the amortized cost for individual securities in the available-for-sale or held-to-maturity accounts is "other than temporary" (that is, whether this decline results from permanent impairment). For example, if it is probable that the investor will be unable to collect all amounts due according to the contractual terms of a debt security that was not impaired at acquisition, an other-than-temporary impairment should be considered to have occurred. If the decline in fair value is judged to be other than temporary, the cost basis of the individual security should be written down to its fair value, and the write-down should be accounted in earnings as a realized loss. This new cost basis should not be written up if there are any subsequent recoveries in fair value.

Other Sources of Regulatory Reporting Guidance

As mentioned above, SFAS 115 has been adopted for regulatory reporting purposes. Call report instructions are another source of guidance, particularly, the glossary entries on—

- coupon stripping, Treasury receipts, and STRIPS,
- fails,
- foreign debt exchange transactions,
- market value of securities,
- nonaccrual status,
- premiums and discounts,
- short positions,
- transfers of financial assets,
- trading accounts,
- trade-date and settlement-date accounting,[6] and
- when-issued securities transactions.

Traditional Model under GAAP

The traditional model was used to account for investment and equity securities before SFAS 115. However, the traditional model still applies to assets that are not within the scope of SFAS 115 (for example, equity securities that do not have readily determinable fair values).

Under the traditional accounting model for securities portfolios and certain other assets, debt securities are placed into the following three categories based on the institution's intent and ability to hold them:

- *Investment account.* Investment assets are carried at amortized cost. A bank must have the intent and ability to hold these securities for long-term investment purposes. The market value of the investment account is fully disclosed in the footnotes to the financial statements.
- *Trading account.* Trading assets are marked to market. Unrealized gains and losses are recognized in income. Trading is characterized by a high volume of purchase and sale activity.

6. As described in this glossary entry, for call report purposes, the preferred method for reporting securities transactions is recognition on the trade date.

- *Held-for-sale account.* Assets so classified are carried at the lower of cost or market value (LOCOM). Unrealized losses on these securities are recognized in income. This account is characterized by intermittent sales of securities.

Under GAAP, the traditional model has been generally followed for other assets as well. Thus, loans that are held for trading purposes would be marked to market, and loans that are held for sale would be carried at LOCOM.

ACCOUNTING FOR OBS DERIVATIVE INSTRUMENTS

As discussed in the previous subsection, the general accounting framework for securities portfolios divides them into three categories: held-to-maturity (accounted for at amortized cost), available-for-sale (accounted for at fair value, with changes in fair value recorded in equity), and trading securities (accounted for at fair value, with changes in fair value recorded in earnings). On the other hand, the traditional accounting framework (that is, trading, investment, and held-for-sale) continues to be relevant for loans and other ''unsecuritized'' assets.

In contrast, the general accounting framework for OBS derivative instruments under GAAP is set forth below:

- If the instrument meets certain specified hedge-accounting criteria, the gains or losses (income or expense) associated with the OBS derivative instrument can be deferred and realized on a basis consistent with the income or expense of the item that is being hedged.
- Otherwise, gains or losses must be recognized as they occur, and OBS derivative instruments generally must be marked to market. Of course, any OBS derivative instruments that are used for trading purposes should be placed in a well-supervised trading account and marked to market.

This general framework is derived from SFAS 52, ''Foreign Currency Translation,'' and SFAS 80, ''Accounting for Futures Contracts.'' Each statement presents different hedging criteria and related guidance.

Proper classification of OBS derivative instruments is a key examination issue. The inappropriate classification of a derivative instrument as a hedge would result in the improper deferral of unrealized gains and losses from earnings and regulatory capital. Institutions should retain adequate documentation to support deferral of gains and losses, including hedging rationale and performance criteria. Unless sufficient evidence supports deferral, derivatives should be marked to market with gains and losses recognized currently. Examiners should scrutinize any institution that has significant deferred losses and limited or no deferred gains.

While GAAP permits hedge accounting for OBS derivative instruments, both GAAP and the call report prohibit the use of hedge-accounting treatment for securities or other on-balance-sheet items (sometimes referred to as ''cash securities'') that may serve as economic hedges of other balance-sheet or OBS items. Thus, even if a security or other balance-sheet instrument would serve the same purpose as an OBS derivative instrument in effectively hedging an institution's exposure, the gains and losses, or income and expense, on that balance-sheet instrument *cannot* be deferred to a future period when the income or expense on the item being hedged is recognized.

Instruments Covered by Authoritative Accounting Standards

Accounting for Domestic Futures Contracts

Futures contracts are firm, or binding, commitments to purchase or sell a particular financial instrument or index, foreign currency, or commodity at a specified future date, quantity, and price or yield. Futures contracts have standardized contractual terms, are traded on organized exchanges, and are typically settled in cash rather than actual delivery.

Under GAAP, all futures contracts, except foreign-currency futures contracts, should be reported in accordance with SFAS 80, ''Accounting for Futures Contracts.'' Foreign-currency

futures contracts should be reported in accordance with the guidance in SFAS 52, ''Foreign Currency Translation.'' (See the standards for more detailed accounting guidance in these areas.)

Treatment of open contracts. Contracts are outstanding (open) until they have been terminated by either the acquisition or delivery of the underlying financial instruments or by offset. ''Offset'' is the liquidating of a purchase of futures through the sale of an equal number of contracts of the same delivery month on the same underlying instrument on the same exchange, or the covering of a short sale of futures through the purchase of an equal number of contracts of the same delivery month on the same underlying instrument on the same exchange.

Transactions in futures contracts generally involve a deposit of cash as margin, which will generally be reported within ''other assets'' on the balance sheet. As discussed below, changes in the market values of open positions may affect general-ledger accounts and related balance-sheet amounts. However, since open positions are executory contracts (commitments) for delivery of the underlying financial instrument, the underlying instrument should not be reflected as an asset or liability on the balance sheet (although the notional amount of these commitments is recorded in memorandum accounts).[7] Only when the closing of an open position results in the acquisition or disposition of the underlying financial instrument would an asset be recorded or removed from the balance sheet.

All open positions in futures contracts must be reviewed periodically and their current market values determined using published price quotations. These futures positions must be revalued at their current market values on these valuation dates, and any changes in these values must be reported in accordance with the guidance presented below for hedge or nonhedge contracts.

Criteria for hedge-accounting treatment. If certain criteria are met, the accounting under GAAP for a futures contract that is used to hedge an asset, liability, commitment, or anticipated transaction (''hedged item'') should be similar to the method of accounting for the hedged item. This means that changes in the market value of the futures contract are recognized in income when the related changes in the price or interest rate of the hedged item are recognized. When an anticipated transaction is the hedged item, the change in value of the futures contract is included in the measurement of the anticipated transaction. Realized gains or losses from changes in the market value of futures contracts that qualify as a hedge of an existing asset or liability should be recognized as an adjustment of the carrying amount (often called ''book value'') of the hedged item. A change in the market value of a futures contract that is a hedge of a firm commitment should be included in the measurement of the transaction that satisfies the commitment.

Under SFAS 80, a futures contract should be accounted for as a hedge when the following conditions are met:

- The institution must have determined that the item to be hedged (that is, an identifiable asset, liability, firm commitment, or anticipated transaction) will expose it to price or interest-rate risk.
- The futures contract must reduce the exposure to risk. This must be demonstrated at the inception of the hedge by an expectation that changes in the prices of both the contract and the hedged item will be highly correlated. Furthermore, ongoing results must show a high degree of correlation, or the hedge will be considered ineffective and consequently marked to market. In other words, the bank must monitor the price movements of both the hedge contract and the hedged item to determine that it is probable (i.e., likely to occur) that the results of the futures contract will offset changes in the market value of the hedged item and that it has so far.
- Management must designate the futures contract as a hedge at the inception of the hedge.

For a futures contract to qualify as a hedge of an anticipated transaction, the following two additional criteria must be met:

- Significant characteristics and expected terms of the anticipated transaction must be identified.

7. Open positions in futures contracts are to be reported in the call report on Schedule RC-L, ''Commitments and Contingencies.''

- The occurrence of the anticipated transaction must be probable.[8]

If the criteria for applying hedge-accounting methods have been met, the gain or loss on a futures contract, instead of being currently recognized in income, is an adjustment to the cost of the asset or liability being hedged. The gain or loss of the futures contract to be deferred will be recognized in income over time in the manner as the cost of the hedged asset or liability. For example, if the item being hedged is an interest-bearing liability that is reported at amortized cost, the changes in the market value of the futures contract would be reflected as adjustments to the carrying amount (or book value) of the liability. The historical cost of the liability and the adjustments brought about by the hedge would then be amortized in interest expense over the expected remaining life of the liability.

If the hedged asset or liability is marked to market, the hedge position will also be marked to market; there is no deferral of gains or losses in this situation. Likewise, if the futures contract hedges an anticipated transaction, the asset to be acquired or liability incurred will be reported at fair value.

If a futures contract qualifying as a hedge is closed before the date of the related anticipated transaction, the accumulated change in value of the contract should be carried forward (assuming high correlation has occurred) and included in the measurement of the related transaction. When it becomes probable that the quantity of the anticipated transaction will be less than that originally hedged, a pro rata portion of the futures results that would have been included in the measurement of the transaction should be recognized as a gain or loss.

If high correlation between price changes of the hedged item and the futures position is no longer evident, the bank should discontinue accounting for the futures contracts as a hedge. In such a case, the portion of the change in market value of the futures contract that correlates with the change in value of the hedged item is an adjustment to the hedged item. The remaining change in market value of the futures contract should be reflected in income for the period. When futures contracts that serve as a hedge are terminated, the gain or loss on the terminated contracts must be deferred and amortized over the remaining life of the hedged item. If the contracts do not qualify as hedges, the gain or loss is recognized currently in income or expense, as appropriate.

8. It will be particularly difficult to meet this criterion when an anticipated transaction is not expected to take place in the near future.

Accounting for Foreign-Currency Off-Balance-Sheet Instruments

The primary source of authoritative guidance for accounting for foreign-currency translations and foreign-currency transactions is SFAS 52. The standard encompasses futures contracts, forward agreements, and currency swaps as they relate to foreign-currency hedging.

SFAS 52 draws a distinction between foreign-exchange ''translation'' and ''transactions.'' Translation, generally, focuses on the combining of foreign and domestic entities for presentation in the consolidated financial statements and reporting in these financial statements in one currency. Foreign-currency transactions, in contrast, are transactions (such as purchases or sales) by an operation in currencies other than its ''functional currency.'' For U.S. depository institutions, the functional currency will generally be the dollar for its U.S. operations and the local currency of wherever its foreign operations transact business.[9]

Foreign-currency translations. Translation is the conversion of the financial statements of a foreign operation (a branch, division, or subsidiary) that are denominated in the operation's functional currency to U.S. dollars, generally for inclusion in consolidated financial statements. The balance sheets of foreign operations are translated at the exchange rate in effect on the statement date, while income-statement amounts are generally translated at an appropriate weighted

9. Detailed guidance for determining the functional currency is set forth in appendix 1 of SFAS 52: ''An entity's functional currency is the currency of the primary economic environment in which the entity operates; normally, that is the currency of the environment in which an entity primarily generates and expends cash. The functional currency of an entity is, in principle, a matter of fact. In some cases, the facts will clearly identify the functional currency; in other cases, they will not.''

SFAS 52 indicates the salient economic indicators, and possibly other factors, that should be considered both individually and collectively when determining the functional currency include cash flow, price and market sales indicators, expense indicators, financing indicators, and intercompany transactions and arrangements.

average rate for the period reported. Gains or losses arising from foreign-currency translation are not recognized currently in income; instead, they are treated as adjustments to a separate component of equity. Recognition in income of these cumulative foreign-currency adjustments will take place when the foreign operation is either sold or substantially liquidated.

An institution may engage in hedging transactions to reduce its risk of exchange losses when translating its net equity investments in foreign operations for presentation in its financial statements, thus avoiding the consequent volatility in its capital position. The effect of the special hedging treatment is to include the change in value of the hedging instrument as a separate component of equity in the same account as the translation adjustment.

Foreign-currency transactions. Gains or losses on foreign-currency transactions, in contrast to translation, are recognized in income as they occur, unless they arise from a qualifying hedge. SFAS 52 provides guidance about the types of foreign-currency transactions for which gain or loss is not currently recognized in earnings. Gains and losses on the following foreign-currency transactions should not be included in determining net income but should be reported in the same manner as translation adjustments:

- foreign-currency transactions that are designated and are effective as economic hedges of a net investment in a foreign entity, commencing as of the designation date
- intercompany foreign-currency transactions that are long-term investments (that is, settlement is not planned or anticipated in the foreseeable future), when the entities to the transaction are consolidated, combined, or accounted for by the equity method in the reporting institution's financial statements

In addition to hedges of the balance sheet, a gain or loss on a forward contract or other foreign-currency transaction that is intended to hedge an identifiable foreign-currency commitment (for example, a firm commitment to sell or purchase equipment) should be deferred and included in the measurement of the related foreign-currency transaction (as an adjustment to the revenue or cost of the equipment in the example). If a foreign-currency hedge is terminated before the transaction date of the related commitment, any deferred gain or loss is to remain deferred until recognition of gain or loss on the items that were hedged occurs. Losses should not be deferred, however, if it is estimated that deferral would lead to recognizing losses in later periods. A foreign-currency transaction should be considered a hedge of an identifiable foreign-currency commitment provided both of the following conditions are met:

- The foreign-currency transaction is designated and is effective as a hedge of a foreign-currency commitment.
- The foreign-currency commitment is firm.

Thus, SFAS 52 is distinguished from SFAS 80 in that hedging the risks from arrangements that have not matured into a firm commitment (an executory contract), such as forecasted foreign sales, do not qualify for hedge treatment. SFAS 52 states that the hedge of a foreign-currency exposure can be considered in isolation; there is no requirement that the overall risk of the institution must be reduced by the hedge as there is under SFAS 80. Under SFAS 80, an institution is, in effect, required to consider the presence of any natural hedges that may be present in its balance sheet. To illustrate, an institution with foreign currency denominated receivables has foreign-exchange risk; however, any accounts payable that are denominated in the same currency as the receivables reduce the exposure. Under SFAS 52, however, the institution could hedge the gross amount of receivables and qualify for deferring-gain or -loss recognition. Note, however, that by neutralizing the exposure from the receivables, the institution now has exchange risk equal to its payables position. Thus, gains or losses from a hedge of a foreign-currency risk may be deferred, even though the hedge position may increase the overall risk of the institution.

A foreign-currency hedge position is required to be denominated in the same currency as the items it is hedging, unless it is impracticable. ''Impracticable'' means there are severe impediments to using the currency, such as illiquidity or a limited exchange market in the currency that is to be hedged, not merely that it is uneconomical. Since the foreign-exchange hedge position is generally denominated in the same currency as the items that are being hedged, there will be perfect correlation (that is, no basis risk) between the hedged items and the hedge position. Therefore, ongoing monitoring of the

correlation between the foreign-exchange hedge and the hedged items is required only if a substitute or proxy currency is being used.

Instruments Not Covered by Authoritative Accounting Standards

Accounting for Forward Contracts

Domestic forward contracts, including forward rate agreements, are generally accounted for by analogy to the accounting guidance for futures contracts set forth in SFAS 80. As noted earlier, the accounting for foreign-currency forward contracts is addressed by SFAS 52; forward rate agreements denominated in a foreign currency are also generally accounted for by analogy to this standard. Forward contracts with no intrinsic value at acquisition that are entered into to purchase securities (that is, the terms require physical settlement of the securities) that will be accounted for under SFAS 115 should be classified and accounted for according to the provisions of this standard.[10] (See EITF 96-11 for further discussion of the application of SFAS 115 to forwards.) Of course, any instruments that are used for trading purposes should be placed in a well-supervised trading account and marked to market.

Accounting for Interest-Rate Swaps

Consistent with the general requirement that trading assets or liabilities be marked to market, a dealer or market maker in swap instruments is required to mark its swap trading book to fair value. While the EITF has provided limited interpretations on interest-rate swaps used as hedges, authoritative standards from the FASB, AICPA, or SEC did not exist until SFAS 133 was published, before which industry practice was diverse. EITF Issue No. 84-7 applies to the early termination of swaps that hedge some financial instrument. According to this issue, gain or loss from early termination is to be deferred and amortized as a yield adjustment to the underlying financial instrument. Under Issue No. 84-36, if there is an underlying debt obligation on the balance sheet of the company entering into a swap, the company should account for the swap like a hedge of the obligation and record interest expense using the revised interest rate. Situations in which the swap does not hedge an asset or liability were excluded from the scope of the two issues, other than to note that a diversity of accounting treatments exist. Some accountants view the EITF's discussion of ''hedging'' as accounting guidance for ''synthetic instruments'' (for example, the transformation of a fixed-rate debt into a floating-rate debt by the use of an interest-rate swap) where there is no risk reduction per se.

Interest-rate swaps denominated in a foreign currency, including cross-currency interest-rate swaps, are generally accounted for by analogy to the accounting guidance set forth in SFAS 52. Financial institutions engaging in swaps should have written policies that govern the accounting for these instruments, and they should be consistently following these policies.

Accounting for Options

Options involve two parties: the writer and purchaser. The purchaser of an option has the right, but not the obligation, to purchase or sell the option's underlying instrument according to the terms specified in the option. The option writer, in return for receiving the option premium, is obligated to perform according to the terms of the option.

Purchased options. When held as a trading asset, a purchased option is to be marked to market under GAAP for presentation in the financial statements. Purchased options with no intrinsic value at acquisition that are entered into to purchase securities (that is, the terms require physical settlement of the securities) that will be accounted for under SFAS 115 should be classified and accounted for according to the provisions of this standard.[11] (See EITF 96-11 for further discussion of the application of SFAS 115 to purchased options.)

Purchased options can be an effective hedge of anticipated transactions when they can be exercised if the anticipated transaction matures into a firm commitment. Alternatively, options can be used to protect against unfavorable price movements but allow the institution to benefit from favorable price changes of the hedged items. The AICPA released an issues paper in

10. See the discussion of SFAS 115 earlier in this section.

11. See the discussion of SFAS 115 earlier in this section.

1986 that proposed certain methods of accounting for options, including hedging criteria similar to SFAS 80. The paper, however, is not authoritative, nor has any other authoritative literature been issued for the accounting of options. For call report presentation, purchased options that are held for hedging purposes generally are to be recorded at cost and amortized over the term of the option; there is no periodic valuation for balance-sheet presentation of open positions.

Written options. With their inherent risk profile, written options, whether covered or not, do not generally qualify for hedge-accounting purposes. Therefore, written options should be marked to market.

Purchased options that hedge anticipated foreign-exchange exposures. In issuing guidance on foreign-currency hedges that use options (Issue No. 90-17), the EITF noted that SFAS 52 did not specifically consider options. The EITF used certain elements from SFAS 80 to identify appropriate criteria for applying hedge-accounting treatment: the requirement that overall risk be reduced, that high correlation between the hedge position and the hedged items be present, and that anticipated transactions could be hedged if they are identifiable and probable. This guidance is narrowly applied to strategies using at-the-money options at the inception of the hedge. When it examined other option-based hedge strategies (Issue No. 91-4), the EITF was unable to reach a consensus because of objections by the SEC about the deferral of gains or losses as they relate to anticipated transactions. The SEC also objected to any deferral of losses from written options, since to write options does not, in the SEC's view, reduce risk.

Statement of Financial Accounting Standards No. 133, Accounting for Derivative Instruments and Hedging Activities

In June 1998, the FASB issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities." The statement originally was to be effective for all fiscal quarters of fiscal years beginning after June 15, 1999. However, the FASB delayed the effective date for one year to fiscal years beginning after June 15, 2000. Thus, for most banks, the standard would be applied in the first quarter of 2001. SFAS 133 comprehensively changes accounting and disclosure standards for derivatives, and will require entities to recognize all derivatives on the balance sheet as either assets or liabilities and measure them at fair value. The accounting recognition of changes in the fair value of a derivative (gains or losses) depends on the intended use of the derivative and the resulting designation. For qualifying hedges, an entity is required to establish at the inception of the hedge the method it will use for assessing the effectiveness of the hedging derivative and the measurement approach for determining the ineffective aspect of the hedge. The methods applied should be consistent with the entity's approach to managing risk. SFAS 133 also precludes designating a nonderivative financial instrument as a hedge of an asset, a liability, an unrecognized firm commitment, or a forecasted transaction, except for those denominated in a foreign currency.

NETTING OR OFFSETTING ASSETS AND LIABILITIES

FASB Interpretation 39 (FIN 39), "Offsetting of Amounts Related to Certain Contracts," provides guidance on the netting of assets and liabilities arising from (1) traditional activities, such as loans and deposits, and (2) derivative instruments. The assets and liabilities from derivatives are primarily the fair values, or estimated market values, for swaps and other contracts, and the receivables and payables on these instruments. FIN 39 clarifies the definition of a "right of setoff" that GAAP has long indicated must exist before netting of assets and liabilities can occur in the balance sheet. One of the main purposes of FIN 39 was to clarify that FASB's earlier guidance on the netting of assets and liabilities (Technical Bulletin 88-2) applies to amounts recognized for OBS derivative instruments as well.

Balance-sheet items arise from off-balance-sheet interest-rate and foreign-currency instruments in primarily two ways. First, those banking organizations and other companies that engage in various trading activities involving OBS derivative instruments (for example, interest-rate and currency swaps, forwards, and options) are required by GAAP to mark to

market these positions by recording their fair values (estimated market values) on the balance sheet and recording any changes in these fair values (unrealized gains and losses) in earnings. Second, interest-rate and currency swaps have receivables and payables that accrue over time, reflecting expected cash inflows and outflows that must periodically be exchanged under these contracts, and these receivables and payables must be recorded on the balance sheet as assets and liabilities, respectively.[12]

Under FIN 39, offsetting, or the netting of assets and liabilities, is not permitted unless all of the following four criteria are met:

- Two parties must owe each other determinable amounts.
- The reporting entity must have a right to set off its obligation with the amount due to it.
- The reporting entity must actually intend to set off these amounts.
- The right of set-off must be enforceable at law.

When all four criteria are met, a bank or other company may offset the related asset and liability and report the net amount in its GAAP financial statements. On the other hand, if any one of these criteria is not met, the fair value of contracts in a loss position with a given counterparty will not be offset against the fair value of contracts in a gain position with that counterparty, and organizations will be required to record gross unrealized gains on such contracts as assets and gross unrealized losses as liabilities. However, FIN 39 relaxes the third criterion (the parties' intent requirement) to permit the netting of fair values of OBS derivative contracts executed with the same counterparty under a legally enforceable master netting agreement.[13] A master netting arrangement exists if the reporting institution has multiple contracts, whether for the same type of conditional or exchange contract or for different types of contracts, with a single counterparty that are subject to a contractual agreement that provides for the net settlement of all contracts through a single payment in a single currency in the event of default or termination of any one contract.

FIN 39 defines "right of setoff" and specifies conditions that must be met to permit offsetting for accounting purposes. FASB's Interpretation 41 (FIN 41), "Offsetting of Amounts Relating to Certain Repurchase and Reverse Repurchase Agreements," was issued in December 1994. This interpretation modifies FIN 39 to permit offsetting in the balance sheet of payables and receivables that represent repurchase agreements and reverse repurchase agreements under certain circumstances in which net settlement is not feasible. (See FIN 41 for further information.)

FUTURE ACCOUNTING FOR DERIVATIVE INSTRUMENTS

Statement of Financial Accounting Standard No. 133 (SFAS 133), "Accounting for Derivative Instruments and Hedging Activities," was issued in June 1998. The statement will be effective for fiscal years beginning after June 15, 2000. Thus, a bank operating on a calendar year would adopt the guidance on January 1, 2001, unless it elects to adopt it before the effective date.

SFAS 133 requires entities to recognize all derivatives on their balance sheets as either assets or liabilities, and report them at their fair value. The accounting recognition of changes in the fair value of a derivative (gains or losses) depends on the intended use of the derivative and the resulting designation. For qualifying hedges, an entity is required to establish at the inception of the hedge the method it will use for assessing the effectiveness of the hedging derivative and the measurement approach for determining the ineffective aspect of the hedge.

12. In contrast, the notional amounts of off-balance-sheet derivative instruments, or the principal amounts of the underlying asset or assets to which the values of the contracts are indexed, are not recorded on the balance sheet. Note, however, that if the OBS instrument is carried at market value, that value will include any receivable or payable components. Thus, for those OBS instruments that are subject to a master netting agreement, the accrual components in fair value are also netted.

13. The risk-based capital guidelines provide generally that a credit-equivalent amount is calculated for each individual interest-rate and exchange-rate contract. The credit-equivalent amount is determined by summing the positive mark-to-market values of each contract with an estimate of the potential future credit exposure. The credit-equivalent amount is then assigned to the appropriate risk-weight category. Netting of swaps and similar contracts is recognized for risk-based capital purposes only when accomplished through "netting by novation." This is defined as a written bilateral contract between two counterparties under which any obligation to each other is automatically amalgamated with all other obligations for the same currency and value date, legally substituting one single net amount for the previous gross obligations.

The methods applied should be consistent with the entity's approach to managing risk. SFAS 133 also precludes designating a nonderivative financial instrument as a hedge of an asset, a liability, an unrecognized firm commitment, or a forecasted transaction, except if any of these are denominated in a foreign currency.

Proper categorization of derivative instruments is a key accounting issue. The inappropriate categorization of a derivative instrument as a hedge would result in the improper treatment of gains and losses in earnings and regulatory capital. Institutions should maintain adequate documentation to support their hedge activity.

Under SFAS 133, derivative instruments are categorized into one of the following categories: (1) no hedge designation, (2) fair-value hedge, (3) cash-flow hedge, and (4) foreign-currency hedge. Regardless of designation, a derivative is reported at fair value on the balance sheet. The general accounting framework for derivative instruments under GAAP is set forth below:

- *No hedge designation.* If the derivative does not have a hedge designation, the gains or losses arising from changes in fair value of the derivative instrument are included in current income.
- *Fair-value hedge.* If the derivative is designated as a hedge of an exposure to changes in the fair value of an asset or liability, or an unrecognized firm commitment, the gains or losses arising from changes in fair value of the derivative are included in current net income. Furthermore, the gain or loss on the hedged item attributable to the risk being hedged is included in current income.
- *Cash-flow hedge.* If the derivative is designated as a hedge of exposure to variability in expected future cash flows that is attributable to a particular risk, the effective portion of the gains or losses arising from changes in fair value of the derivative are included in other comprehensive income outside of net income. The remaining gain or loss on the derivative is recognized currently in income.
- *Foreign-currency hedge.* If the derivative or, in certain instances, a nonderivative instrument is designated as a foreign-currency hedge, the gain or loss on the derivative instrument shall be accounted for as set forth below:
  - — *Foreign-currency fair-value hedge.* The gain or loss on the hedging derivative (or qualified nonderivative instrument) in a hedge of a foreign-currency-denominated firm commitment or on a derivative hedging as an available-for-sale security, and the offsetting loss or gain on either hedged instrument, shall be recognized currently in earnings.
  - — *Foreign-currency cash-flow hedge.* The effective portion of the gain or loss on the hedging derivative instrument in a hedge of a forecasted foreign-currency-denominated transaction shall be reported as a component of other comprehensive income (outside earnings) and reclassified into earnings in the same period or periods during which the hedged forecasted transaction affects earnings. The remaining gain or loss on the hedging instrument shall be recognized currently in earnings.
  - — *Hedge of net investment in a foreign operation.* The gain or loss on the hedging derivative (or qualifying nonderivative instrument) in a hedge of a net investment in a foreign operation shall be reported in other comprehensive income (outside earnings) as part of the cumulative translation adjustment to the extent it is effective as a hedge. The hedged net investment is accounted for consistent with SFAS 52.

1. To determine whether the organization's written accounting policies relating to trading and hedging with derivatives instruments have been approved by senior management for conformance with generally accepted accounting practices, and that such policies conform with regulatory reporting principles.
2. To determine whether capital-markets and trading activities appear in regulatory reports, as reported by accounting personnel in conformance with written accounting policies.
3. To determine whether securities held in available-for-sale or held-to-maturity accounts meet the criteria of SFAS 115 and are, therefore, properly excluded from the trading account.
4. To determine whether market values of traded assets are accurately reflected in regulatory reports.
5. To determine whether financial instruments are netted for financial reporting and regulatory reporting only for those counterparties whose contracts conform with specific criteria permitting such setoff.
6. To determine whether management's assertions that financial instruments are hedges meet the necessary criteria for exclusion from classification as trading instruments.
7. To ascertain whether the organization has adequate support that a purported hedge reduces risk in conformance with SFAS 52 or 80, or when no authoritative guidance exists, that it meets hedge criteria specified in organizational accounting policies.
8. To determine whether the amount and recognition of deferred losses arising from hedging activities are properly recorded and are being amortized appropriately.
9. To recommend corrective action when policies, procedures, practices, internal controls, or management information systems are found to be deficient, or when violations of laws, rulings, or regulations have been noted.

These procedures list a number of processes and activities to be reviewed during a full-scope examination. The examiner-in-charge will establish the general scope of examination and work with the examination staff to tailor specific areas for review as circumstances warrant. As part of this process, the examiner reviewing a function or product will analyze and evaluate internal-audit comments and previous examination workpapers to assist in designing the scope of examination. In addition, after a general review of a particular area to be examined, the examiner should use these procedures, to the extent they are applicable, for further guidance. Ultimately, it is the seasoned judgment of the examiner and the examiner-in-charge as to which procedures are warranted in examining any particular activity.

1. Obtain a copy of the organization's accounting policies and review them for conformance with the relevant sections regarding trading and hedging transactions of authoritative pronouncements by FASB, AICPA (for Y-series reports), and Call Report Instructions.
2. Using a sample of securities purchase-and-sales transactions, check the following:
   a. Securities subledgers accurately state the cost, and the market values of the securities agree to outside quotations.
   b. Securities are properly classified among trading, available-for-sale, and held-to-maturity classifications.
   c. Transactions that transfer securities from the trading account to either held-to-maturity or available-for-sale are authorized and conform with authoritative accounting guidance (such transfers should be rare, according to SFAS 115).
3. Obtain a sample of off-balance-sheet financial instruments held in the trading account and compare the reported market value against outside quotations or compare valuation assumptions against market data.
4. Review the organization's controls over reporting certain off-balance-sheet financial instruments on a net basis. Using a sample of transactions, review the contractual terms to determine that the transactions qualify for netting for financial reporting and regulatory reporting purposes, according to the criteria specified by FIN 39 or regulatory reporting requirements.
5. Review the organization's methods for identifying and quantifying risk for purposes of hedging. Review the adequacy of documented risk reduction (SFAS 52 and SFAS 80) and the enterprise or business-unit risk reduction (SFAS 80) that are necessary conditions to applying hedge-accounting treatment.
6. Obtain schedules of deferred gains or losses resulting from hedging activities and review whether deferral was appropriate and the reasonableness of amortization methods.
7. Determine if accounting reversals are well documented.
8. Determine if accounting profits and losses prepared by control staff are reviewed by the appropriate level of management and that the senior staff in the front office (head trader, treasurer) has agreed with accounting numbers. Determine if the frequency of review by senior managers is adequate for the institution's volume and level of earnings.
9. Recommend corrective action when policies, procedures, practices, internal controls, or management information systems are found to be deficient, or when violations of laws, rulings, or regulations have been noted.

1. Does the organization have a well-staffed accounting unit that is responsible for procedures and instructions for recording transactions; marking to market when appropriate; filing regulatory and stockholder reports, and dealing with regulatory, tax, and accounting issues?
2. Do the organization's accounting policies conform to the relevant sections regarding trading and hedging transactions of authoritative pronouncements by FASB and AICPA, and to the Call Report Instructions? If the organization is a foreign institution, does the organization have appropriate policies and procedures to convert foreign accounting principles to U.S. reporting guidance? Is there an adequate audit trail to reconcile the financial statements to regulatory reports?
3. For revaluation
   a. Do securities subledgers accurately state the cost and that market values of the securities agree to outside quotations?
   b. Are securities properly classified among trading, available-for-sale, and held-to-maturity classifications?
   c. Evaluate the transfer of securities from the trading account to either held-to-maturity or available-for-sale for authorization in conformance with authoritative accounting guidance. Are such transfers rare? (According to SFAS 115, such transfers should be rare.)
4. Do the revaluation rates used for a sample of off-balance-sheet financial instruments held in the trading account appear within range when compared with supporting documentation of market rates?
5. Do the contractual terms of a sample of transactions qualify for netting for financial reporting and regulatory reporting purposes, according to the criteria specified by FIN 39 or regulatory reporting requirements?
6. Does the financial institution have procedures to document risk reduction (SFAS 52 and 80), and does it have enterprise or business-unit risk reduction (SFAS 80) conditions to apply hedge-accounting treatment? Do the procedures apply to the full range of applicable products used for investment? Is record retention adequate for this process?
7. Are the amortization methods for deferred gains or losses resulting from hedging activities appropriate and reasonable?
8. Are accounting reversals justified by supervisory personnel and well documented?
9. Are profits and losses prepared by control staff reviewed by the appropriate level of management and senior staff (head trader, treasurer) for agreement? Is the frequency of review by senior managers adequate for the institution's volume and level of earnings?

The disclosures for financial-statement purposes are summarized below.

SECURITIES PORTFOLIO DISCLOSURES UNDER SFAS 115

For securities classified as available-for-sale and separately for securities classified as held-to-maturity, all reporting institutions should disclose the aggregate fair value, gross unrealized holding gains, gross unrealized holding losses, and amortized cost basis by major security type as of each date for which a statement of financial position is presented. Financial institutions should include the following major security types in their disclosure, though additional types may be included as appropriate:

- equity securities
- debt securities issued by the U.S. Treasury and other U.S. government corporations and agencies
- debt securities issued by states of the United States and political subdivisions of the states
- debt securities issued by foreign governments
- corporate debt securities
- mortgage-backed securities
- other debt securities

For investments in debt securities classified as available-for-sale and separately for securities classified as held-to-maturity, all reporting institutions should disclose information about the contractual maturities of those securities as of the date of the most recent statement of financial position presented. Maturity information may be combined in appropriate groupings. In complying with this requirement, financial institutions should disclose the fair value and the amortized cost of debt securities based on at least four maturity groupings: (1) within one year, (2) after one year through five years, (3) after five years through 10 years, and (4) after 10 years. Securities not due at a single maturity date, such as mortgage-backed securities, may be disclosed separately rather than allocated over several maturity groupings; if allocated, the basis for allocation also should be disclosed. For each period for which the results of operations are presented, an institution should disclose—

- the proceeds from sales of available-for-sale securities and the gross realized gains and gross realized losses on those sales,
- the basis on which cost was determined in computing realized gain or loss (that is, specific identification, average cost, or other method used),
- the gross gains and gross losses included in earnings from transfers of securities from the available-for-sale category into the trading category,
- the change in net unrealized holding gain or loss on available-for-sale securities that has been included in the separate component of shareholders' equity during the period, and
- the change in net unrealized holding gain or loss on trading securities that has been included in earnings during the period.

For any sales of or transfers from securities classified as held-to-maturity, the amortized cost amount of the sold or transferred security, the related realized or unrealized gain or loss, and the circumstances leading to the decision to sell or transfer the security should be disclosed in the notes to the financial statements for each period for which the results of operations are presented. Such sales or transfers should be rare, except for sales and transfers due to the changes in circumstances as previously discussed.

DISCLOSURES FOR FOREIGN-CURRENCY TRANSLATION

SFAS 52 requires companies to disclose gains and losses from certain hedges. These changes are reflected as cumulative translation adjustments in a separate component of equity.

DISCLOSURES FOR ACCOUNTING FOR FUTURES CONTRACTS

Under SFAS 80, companies must disclose—

- the nature of assets and liabilities, firm commitments, or anticipated transactions that are hedged with futures contracts, and
- the method of accounting for futures con-

tracts, which should include a description of the events or transactions that result in recognition in income of changes in value of the futures contracts.

DISCLOSURE REQUIREMENTS FOR FINANCIAL INSTRUMENTS

All Financial Instruments

For all financial instruments (assets, liabilities, and off-balance-sheet) within the scope of SFAS 107, an institution should disclose the fair value of the instruments for which it is practicable to estimate fair values, along with the carrying value of the instruments. The disclosure should distinguish between instruments held or issued for trading purposes and for purposes other than trading. Fair values of derivatives should not be netted unless netting is appropriate under FIN 39. (SFAS 107, as amended by SFAS 119)

For financial instruments for which it is not practicable to estimate fair value, institutions should provide descriptive information pertinent to estimating the fair value of the financial instruments, and the reasons why it is not practicable to estimate the fair value. (SFAS 107, as amended by SFAS 119)

The information on fair values described in the two preceding paragraphs can be presented separately in the notes to the financial statements; however, it must also be presented together in a summary table. (SFAS 107, as amended by SFAS 119)

OBS Risk and Derivatives

For financial instruments with off-balance-sheet risk of accounting and derivative financial instruments (as defined in SFAS 119), an institution should disclose the following, distinguishing between instruments held or issued for trading purposes and for purposes other than trading:

- face or contract amount (or notional principal amount if there is not a contract amount)
- nature and terms, including (1) the credit and market risk, (2) cash requirements of those instruments, and (3) related accounting policies
- for derivative financial instruments, whether the instruments are held or issued for (1) trading purposes, including trading activities measured at fair value with gains and losses recognized in earnings, or (2) purposes other than trading

For balance-sheet and OBS items with credit risk, the following should be disclosed:

- amount of accounting loss the entity would incur from counterparty nonperformance
- institution's collateral policy

Derivatives

For entities that hold or issue derivative financial instruments for trading purposes, the following disclosures are required either in the financial statements or in the accompanying notes:

- average fair value of those derivative financial instruments during the period, presented together with the related end-of-period fair value, distinguishing between assets and liabilities. Entities that trade other types of financial instruments or nonfinancial assets are encouraged, but not required, to present a more complete picture of their trading activities by disclosing average fair value for those assets and liabilities (SFAS 119)
- the net gains or losses arising from trading activities during the reporting period disaggregated by class, business activity, risk, or other

For entities that hold or issue derivative financial instruments for purposes other than trading, the following disclosures are required in the financial statements or in the accompanying notes:

- a description of the objectives for holding or issuing the derivatives
- a description of how and where each class of derivative is reported in the financial statements

For derivative financial instruments that are held or issued and accounted for as hedges of anticipated transactions, the following disclosures are required in the financial statements or accompanying notes:

- a description of the anticipated transactions being hedged and of the classes of derivative financial instruments used to hedge the anticipated transactions
- the amount of hedging gains and losses explicitly deferred
- a description of the transactions or other events that result in the recognition in earnings of gains or losses deferred by hedge accounting

Entities are also *encouraged* to disclose quantitative information about interest-rate, foreign-exchange, commodity-price, or other market risks of derivative financial instruments consistent with the way the entity manages or adjusts those risks.

SEC DERIVATIVES DISCLOSURE REQUIREMENTS

In the first quarter of 1997, the SEC issued rules requiring the following expanded disclosures for derivative and other financial instruments for public companies:

- improved descriptions of accounting policies for derivatives in the footnotes of the financial statements
- disclosure of quantitative and qualitative information about derivatives and other financial instruments outside of the footnotes to the financial statements:
  - — For the quantitative disclosures about market-risk-sensitive instruments, registrants must follow one of three methodologies and distinguish between instruments used for trading purposes and instruments used for purposes other than trading. The three disclosure methodology alternatives are (1) tabular presentation of fair values and contract terms, (2) sensitivity analysis, or (3) value-at-risk disclosures. Registrants must disclose separate quantitative information for each type of market risk to which the entity is exposed (for example, interest-rate or foreign-exchange rate).
  - — The qualitative disclosures about market risk must include the registrant's primary market-risk exposures at the end of the reporting period, how those exposures are managed, and changes in primary risk exposures or how those risks are managed as compared to the previous reporting period.
- disclosures about derivative financial instruments with any financial instruments, firm commitments, commodity positions and anticipated transactions that are being hedged by such items (These are included to avoid misleading disclosures.)

With regard to the review of regulatory reports, the internal control function is critical in the assessment of an institution's reporting function. The examiner must gain a thorough understanding of (1) the information flows from the execution of a transaction to its inclusion in the appropriate regulatory report, (2) the design and performance of critical internal control procedures, and (3) the adherence to regulatory reporting standards.

Examiners, report processors, and economists who analyze regulatory reports or otherwise use the data contained in them depend on the data's accuracy. False reporting is punishable by civil monetary penalties as prescribed in the Financial Institutions Recovery, Reform, and Enhancement Act of 1989 (FIRREA).

OVERVIEW OF REPORTS

Several types of regulatory reports contain trading data: the Report of Condition (FFIEC 031–034), Report of Assets and Liabilities of U.S. Branches and Agencies of Foreign Banks (FFIEC 002), Monthly Consolidated Foreign Currency Report (FFIEC 035), and financial statements of the securities subsidiaries.

The Federal Reserve Board (FRB) and Federal Financial Institutions Examination Council (FFIEC) require financial institutions to summarize their gross positions outstanding in traded products on the Report of Condition and Income as well as on the Report of Assets and Liabilities (collectively, the *call reports*). These regulatory reports vary according to the size and type of institution. For example, the reports required by the FFIEC include the 002 for U.S. branches and agencies of foreign banks and a series of reports for domestic banks, while the FRB requires the Y-series to cover bank holding companies.

In addition, financial institutions file the Monthly Consolidated Foreign Currency Report (FFIEC 035) if their commitments to purchase and sell foreign exchange exceed $1 billion on the call report. The FFIEC 035 shows long, short, and net positions by currency and instrument.

Section 20 subsidiaries show their securities revenue and capitalization in detail on the Financial and Operational Combined Uniform Single (FOCUS) report as required by the Securities and Exchange Commission (SEC); this report is also filed with the FRB and appropriate self-regulatory organization (SRO). The Y-20, another FRB report, summarizes the FOCUS data and segregates revenues from eligible and ineligible securities. Other bank holding company subsidiaries that trade eligible securities also file the FOCUS with the SEC and the appropriate SRO. The appendix to this section describes frequently used regulatory reports.

SOUND PRACTICES

- Every organization should have procedures to prepare regulatory reports. When conversion from foreign-accounting principles to GAAP or U.S. regulatory accounting principles (RAP) is required, a mapping should document an audit trail. This documentation is particularly important as the degree to which reconciliation is automated declines.
- Every institution should maintain clear and concise records with special emphasis on documenting adjustments.
- Every organization should have a procedure to ensure that current reporting instructions are maintained and understood by control staff.
- Every organization should have a procedure whereby staff preparing regulatory reports are consulted if new products are introduced to ensure correct classification of the products.
- Every organization should have a procedure, such as contacting the appropriate statistics units within the Federal Reserve System, to resolve questions when they arise.

The examiner's principal objective when reviewing the regulatory-reporting function is to verify the accuracy and consistency of reporting requirements. The examiner's review of regulatory reporting, as it applies to trading activities of the institution, should be coordinated with overall trading-examination objectives. To assess the accuracy of regulatory reports, examiners should review appropriate supporting documents, such as workpapers, general ledgers, subsidiary ledgers, and other information used to prepare the regulatory reports.

The reports must meet the following conditions:

1. To confirm that the trading data are as of the report date and that they match the records of the traders and include all material post-closing adjustments to the general ledger.
2. To check that the data conform to the requirements of the report instructions. (''Accounting requirements'' refers to how a transaction should be valued. It also prescribes when transactions should be reported (for example, the rules regarding trade-date accounting). The reports required by the Board are generally consistent with GAAP.)
3. To assess the effectiveness of the system of internal controls over the regulatory-reporting function. To identify, document, and test internal control procedures that are critical to the accurate, reliable, and complete reporting of trading transactions in regulatory reports.
4. To determine the effectiveness of the internal controls over financial reporting, which can have an impact on the extent of examination procedures that need to be applied to verify the accuracy of regulatory reports. (For example, if an examiner has determined that an organization has very effective internal controls over financial reporting, then the extent of detailed testing procedures applied to verifying the accuracy of regulatory reports will be less extensive than those applied to an institution that has ineffective controls or a system of controls with potential weaknesses.)
5. To review the FOCUS report to evaluate capital adequacy. (For section 20 subsidiaries, the examiner reviews the FR Y-20 to ensure that revenue from ineligible securities does not exceed 10 percent of total revenue.)

These procedures represent a list of processes and activities that may be reviewed during a full-scope examination. The examiner-in-charge will establish the general scope of examination and work with the examination staff to tailor specific areas for review as circumstances warrant. As part of this process, the examiner reviewing a function or product will analyze and evaluate internal audit comments and previous examination workpapers to assist in designing the scope of examination. In addition, after a general review of a particular area to be examined, the examiner should use these procedures, to the extent they are applicable, for further guidance. Ultimately, it is the seasoned judgment of the examiner and the examiner-in-charge as to which procedures are warranted in examining any particular activity.

1. Early in the examination, the examiner should review trading data for arithmetic mistakes, general accounting errors, and any misunderstanding of the regulatory-reporting instructions. Common conceptual errors include incorrect recognition of income on traded products, incorrect valuation of trading-account securities, omission of securities not yet settled, and reporting of currency swaps as interest-rate swaps.
2. The examiner should ensure that previously noted exceptions (in either the prior Report of Examination or by auditors) have been properly addressed.
3. The examiner should review the workpapers of the person responsible for preparing regulatory reports for descriptions of each transaction included in the line items. These details must match the instructions for the corresponding lines.
4. The examiner should reconcile the regulatory reports to the institution's official records, especially the general ledger, and to reports of the area in charge of trading. The reconciliation process begins with a review of the regulatory report through a spot check of the regulatory report against the preparer's sources. The examiner may be able to avoid line-by-line reconciliation if accuracy runs high in the spot check or if the examiner verifies that the institution has an approved, independently verified reconciliation process.
5. The examiner should ensure that post-closing adjustments and all accounting and timing differences, if any, between the regulatory-reporting requirements and GAAP have been effected.

Call report data are the basis for the Report of Examination's balance sheet, off-balance-sheet items or activities, income statement, and risk-based capital schedules. Corrections to the data made during the reconcilement of the regulatory reports must be reflected in the Report of Examination's schedules. In the rare instance when the dates of the regulatory reports and the examination do not coincide, data as of the examination date must be compiled in accordance with call report instructions.

1. Are all regulatory reports reviewed for accuracy by a person who is independent of the preparation process before reports are submitted to the regulatory authorities?
2. Does internal audit at the institution review the process of regulatory reporting, including the accuracy of the trading data on regulatory reports?
3. Are internal controls in place that provide reasonable assurances of the accuracy, reliability, and completeness of reported trading information?
4. Are these internal controls documented and tested by internal audit? If not, examination personnel should document and test critical internal controls in this area to the extent appropriate to satisfy examination objectives.
5. Does supporting documentation include sources of information and reconciliation to the general or subsidiary ledgers, and are reconciling items handled appropriately?
6. Are procedures in place to capture exotic instruments or other transactions that require special handling? Off-balance-sheet items that are handled outside of normal processes or automated systems may be omitted if procedures and adequate communication exist between the reporting and trading functions.
7. Do reporting personnel have an adequate understanding of trading instruments, trading transactions, and reporting requirements to ensure accurate and reliable regulatory reporting?
8. Does the preparer or reviewer maintain the most current instructions for the reports he or she is responsible for?
9. Does the accounting department have procedures to ensure that the preparer or reviewer investigates questions from the FRB report analysts? (Report analysts ask the accounting department over the telephone to explain arithmetic discrepancies and large variances from prior periods.)
10. What knowledge does the signatory have regarding the report he or she is signing and the controls in place to ensure accuracy?

REPORTS LISTED BY TYPE OF INSTITUTION

Listed below, according to the type of respondent, are the regulatory reports which include data on traded products. Some of the reports show detail by product type, while others only have data aggregated for selected products. Before undertaking a review of any trading instruments, examiners should become familiar with the data available to them in the reports filed by the entity under examination.

Bank Holding Company Reports

1. FR Y-9C

Consolidated financial statements for top-tier bank holding companies with total consolidated assets of $150 million or more and lower-tier bank holding companies that have total consolidated assets of $1 billion or more. In addition, FR Y-9C reports are filed by all multibank bank holding companies with debt outstanding to the general public or that are engaged in certain nonbank activities, regardless of size.

Frequency: quarterly

Each of the instruments listed below is captured on this report. See the report instructions/glossary for the treatment of each instrument. See schedules HC-I, HC-IC, and HC-J for risk-based capital components.

Schedule HC-A

Securities
- U.S. Treasuries
- Municipal
- Mortgage-backed
- Foreign governments
- Corporations
- LDC debt
- Equities

Schedule HC-F

Futures and forwards
Forward rate agreements
Interest-rate swaps
Foreign exchange
Currency swaps
Options (interest-rate, currency)
Commodities
Index-linked activities
Hybrids

2. FR Y-9SP Parent company only financial statements for one-bank holding companies with total consolidated assets of less than $150 million.

   Frequency: semiannually

   Typically, examiners will encounter only securities (for example, U.S. Treasuries, obligations of states and municipalities, and mortgage-backed securities) when reviewing this report. No off-balance-sheet items are captured on this report.

3. FR Y-9LP Parent company only financial statements for each bank holding company that files the FR Y-9C. In addition, for tiered bank holding companies, parent company only financial statements for each lower-tier bank holding company if the top-tier bank holding company files the FR Y-9C.

   Frequency: quarterly

   Typically, examiners will encounter only securities transactions (for example, U.S. Treasuries, municipal, and mortgage-backed) when reviewing this report. No off-balance-sheet items are captured on this report.

4. FR Y-8 Report of bank holding company intercompany transactions and balances.

   Frequency: semiannually and on an interim basis

   BHCs with total consolidated assets of $300 million or more are required to file this report of large asset transfers (as defined in the instructions) within 30 calendar days after the close of the previous six-month period. In addition, selected transfers (see instructions) need to be reported on an interim basis within 10 calendar days of their occurrence.

5. FR Y-8f Report of intercompany transactions for foreign banking organizations and their U.S. bank subsidiaries.

   Frequency: semiannually and on an interim basis

   This report shows large asset transfers (as defined in the instructions) within 45 calendar days after the close of each reporting period. In addition, interim reports on selected transfers (see instructions) are required within 15 calendar days of their occurrence.

   It also tracks intercompany asset transfers (loans and securities) and foreign-exchange transactions for foreign banking organizations having $300 million or more in consolidated assets and conducting business in the United States.

6. FR Y-20 Financial statements for a bank holding company subsidiary engaged in ineligible securities underwriting and dealing.

   Frequency: quarterly

   Schedules SUD and SUD-A capture securities transactions (for example, U.S. Treasuries, municipal, foreign, and asset-backed securities) as well as transactions involving equities, futures and forwards, and options.

7. FR Y-11Q Financial statements for each individual nonbank subsidiary of a bank holding company with total consolidated assets of $150 million or more in which the nonbank subsidiary has total assets of 5 percent or more of the top-tier bank holding company's consolidated tier 1 capital, or in which the nonbank subsidiary's total operating revenue equals 5 percent or more of the top-tier bank holding company's consolidated total operating revenue.

   Frequency: quarterly

   Each of the instruments listed below is captured on this report.

   Balance-Sheet Items
   Securities

   Off-Balance-Sheet Items
   Futures and forwards
   Forward rate contracts
   Interest-rate swaps
   Foreign exchange
   Currency swaps
   Option contracts

8. FR Y-11I Financial statements for each individual nonbank subsidiary that is owned or controlled by a bank holding company with total consolidated assets of less than $150 million or with total consolidated assets of $150 million or more if (1) the total assets of the nonbank subsidiary are less than 5 percent of the top-tier bank holding company's consolidated tier 1 capital and (2) the total operating revenue is less than 5 percent of the top-tier bank holding company's consolidated total operating revenue.

   Frequency: annually

   Each of the instruments listed below is captured on this report.

   Balance-Sheet Items
   Securities

   Off-Balance-Sheet Items
   Futures and forwards
   Forward rate contracts
   Interest-rate swaps
   Foreign exchange
   Currency swaps
   Option contracts

9. FFIEC 035 Monthly consolidated foreign-currency report of banks in the United States.

Frequency: last business day of each month

If a bank holding company files an FR Y-9 and has foreign-exchange commitments in excess of U.S. $100 million outside of subsidiary banks that are required to file this form, it is required to complete this report. This report captures information on foreign-exchange transactions (spot, forwards, and futures), cross-currency interest-rate swaps, and options. Information is reported in foreign currency and U.S. dollar equivalents.

This report may also be required of U.S.-chartered banks, Edge Act and agreement corporations, U.S. branches and agencies of foreign banks, and others specially requested to file this report by their primary federal bank supervisory agency.

10. FFIEC 009 Country Exposure Report filed by U.S. commercial banks and/or bank holding companies that meet the reporting criteria specified in the instructions to this report.

Frequency: quarterly

10a. FFIEC 009a Country Exposure Information Report supplements the FFIEC 009 and is intended to detail significant exposures as defined in the instructions to this report.

Frequency: quarterly

These reports show country distribution of foreign claims held by U.S. banks and bank holding companies. They also include foreign securities in the aggregate assets of the countries shown.

These reports may also be filed by U.S.-chartered insured commercial banks, Edge Act and agreement corporations, and other banking organizations.

11. X-17A-5 FOCUS Report.

Frequency: quarterly

This report collects data on securities and spot commodities owned by broker-dealers. In addition, it reflects the haircuts the broker-dealers are required to take, where applicable, pursuant to SEC rule 15 3-1 (f).

Bank Reports

1. FFIEC 031 Consolidated reports of condition and income for a bank with domestic and foreign offices.

   Frequency: quarterly

   Each of the instruments listed below is captured on this report. See the report instructions for the treatment of each instrument. See schedule RC-R for risk-based capital computation.

   Schedules RC-B and RC-D
   Securities
   - U.S. Treasury
   - Municipal
   - Mortgage-backed
   - Foreign government
   - Equity
   - All others

   Schedule RC-L
   Futures and forwards
   Forward rate agreements
   Interest-rate swaps
   Foreign exchange
   Currency swaps
   Options
   - Interest-rate
   - Currency

   Commodities
   Index-linked activities
   Hybrids
   Credit derivatives

   The FFIEC 032, 033, and 034 reports of condition and income capture information on the same instruments as the FFIEC 031.

2. FFIEC 030 Report of condition for foreign branch of U.S. bank.

   Frequency: annually for all overseas branch offices of insured U.S. commercial banks

   quarterly for significant branches with either total assets of at least $2 billion or commitments to purchase foreign currencies and U.S. dollar exchange of at least $5 billion

   This is a two-page report that captures information on balance-sheet data as well as selected off-balance-sheet data (options, foreign exchange, interest-rate swaps, and futures and forward contracts).

3. FFIEC 035 See ‘‘Bank Holding Company Reports’’ above.

Reports for U.S. Branches and Agencies of Foreign Banks

1. FFIEC 002 Report of assets and liabilities of U.S. branches and agencies of foreign banks.

   Frequency: quarterly

   This report captures information pertaining to balance-sheet and off-balance-sheet transactions reported by all branches and agencies.

   Schedule RAL
   Securities
   - U.S. Treasuries
   - Government agencies
   - All others

   Schedules L and M—part 5
   Futures and forwards
   Forward rate agreements
   Interest-rate swaps
   Foreign exchange
   Currency swaps
   Options (interest-rate, currency)

2. FR 2069 Weekly report of assets and liabilities for large U.S. branches and agencies of foreign banks.

   Frequency: as of the close of business every Wednesday

   Securities are included in this abbreviated report of assets and liabilities, which resembles schedule RAL on FFIEC 002.

3. FFIEC 019 Country exposure for U.S. branches and agencies of foreign banks.

   Frequency: quarterly

   This report shows country distribution of foreign claims held by branches and agencies. It includes foreign securities in the aggregate assets of the countries shown.

   The FFIEC 009 (filed by banks, bank holding companies, and Edge Act and agreement corporations) is similar to this form.

4. FFIEC 035 See ''Bank Holding Company Reports'' above.

Other Reports

1. FR 2314a — Report of condition for foreign subsidiaries of U.S. banking organizations (to be filed by companies with total assets exceeding U.S. $100 million as of the report date).

   Frequency: annually

   quarterly for significant subsidiaries with either total assets greater than $2 billion or $5 billion in commitments to purchase and sell foreign currencies

1a. FR 2314b — Report of condition for foreign subsidiaries of U.S. banking organizations (to be filed by companies with total assets between U.S. $50–100 million as of the report date).

   Frequency: annually

1b. FR 2314c — Report of Condition for Foreign Subsidiaries of U.S. Banking Organizations (to be filed by companies with total assets less than U.S. $50 million as of the report date).

   Frequency: annually

   These three schedules are intended to capture financial information on the overseas subsidiaries of U.S. banking organizations (i.e., bank holding companies, banks, and Edge Act corporations). The level of detail reported will depend on the asset size of the reporting entity. The FR 2314a and FR 2314b capture information on balance-sheet and off-balance-sheet transactions. The FR 2314c report cannot be used to track individual categories as can the other two reports.

3. FR 2886b — Report of condition for Edge Act and agreement corporations.

   Frequency: quarterly

   This report reflects the consolidation of all Edge and agreement operations, except for those majority-owned Edge or agreement subsidiaries. The latter are accounted for within a single line item, claims on affiliates. Asset instruments (securities and LDC debt) are reflected in the securities and loan lines, respectively, of this report. Off-balance-sheet items are grouped except for foreign-exchange and options contracts.

4. FFIEC 035 — See ‘‘Bank Holding Company Reports’’ above.

The trading activities and related instruments discussed in this manual are covered by various securities, commodities, or banking laws and regulations. Trading and other activities relating to securities are regulated under a variety of statutes, including the Securities Act of 1933, Securities Exchange Act of 1934, and Government Securities Act of 1986. In addition to regulation by the Securities and Exchange Commission (SEC) and U.S. Treasury Department, various self-regulatory organizations (SROs) are responsible for oversight of securities broker-dealers. The SROs include the Municipal Securities Rulemaking Board (MSRB), the National Association of Securities Dealers (NASD), and exchanges such as the New York Stock Exchange (NYSE).

Bank activities in the trading of securities are subject to further regulation from the various banking regulators. One of the more important statutory provisions governing securities activities of banks is the Banking Act of 1933 (the Glass-Steagall Act), which provided that member banks could purchase only certain limited types of securities (referred to as ''eligible securities'') and prohibited member banks from affiliating with entities that were engaged principally in the business of underwriting or issuing ineligible securities. In addition, permissible equity trading activities of foreign and Edge corporation subsidiaries of U.S. banks are governed under the Board's Regulation K.

Activities involving instruments other than securities also may be subject to a variety of regulatory provisions. Commodities futures and options are regulated primarily by the Commodity Futures Trading Commission (CFTC), with the activities of futures commission merchants (FCMs) subject to regulation by the CFTC as well as the rules of the National Futures Association (an SRO) and various exchanges on which trading is conducted. Most over-the-counter derivative instruments (for example, foreign-exchange contracts, forward rate agreements, and interest-rate swaps) are exempt from general CFTC regulation, either by statute in the case of foreign exchange or under CFTC regulatory exemptions in the case of other types of swaps and related transactions. While these instruments are not themselves subject to regulation, the activities of regulated entities in these instruments are subject to oversight by the banking or other regulators.

In addition to laws and regulations issued by the regulatory authorities, industry trade groups such as the International Swaps Dealers Association or the Public Securities Association (PSA) have developed industry guidelines or standards in some areas. Additionally, organizations such as the Financial Accounting Standards Board (FASB) and the American Institute of Certified Public Accountants (AICPA) issue opinions and standards that relate to a financial institution's trading activities and financial disclosure.[1]

Increasingly, securities trading activities of banking organizations are being conducted in separately incorporated, nonbank entities owned, directly or indirectly, by bank holding companies. The Board has permitted some banking organizations to engage in securities underwriting and dealing—most importantly, in corporate debt and equity—that previously was restricted largely to securities firms. The subsidiaries in which these securities activities are conducted are commonly referred to as ''section 20'' subsidiaries, after section 20 of the Glass-Steagall Act. Before the Board's approval of limited underwriting activities relating to corporate debt and equity securities, banking organizations were restricted to underwriting and dealing in bank-eligible securities, such as government securities, general municipal obligations, and money market instruments.

Section 20 companies also are registered broker-dealers, as are many other bank holding company or bank subsidiaries. As such, they fall under the regulatory authority of both securities and banking regulators. Thus, bank examiners need to become familiar with the regulatory environment in which securities broker-dealers have traditionally operated. This section will focus on that goal, deferring to existing material in the following manuals: *Commercial Bank Examination*, *Merchant and Investment Bank Examination*, and *Bank Holding Company Supervision*.

1. For example, FASB's Statement No. 80 outlines accounting requirements relating to futures contracts, while Practice Bulletin 4 of the AICPA addresses accounting issues concerning debt-for-equity swaps involving LDC obligations.

PRINCIPLES OF SUPERVISION

The main principles of securities regulation employed by the SEC are the protection of investors (especially the small and unsophisticated) and maintenance of the integrity and liquidity of the capital markets. These are not unlike the goals of banking regulators, who seek to protect small depositors and promote a stable banking system. However, securities and banking regulators differ in how they apply these goals to an institution encountering problems. Securities capital-adequacy rules are liquidity-based and designed to ensure that a troubled broker-dealer can promptly pay off all customers in the event of liquidation. Banking regulators face a different set of constraints when dealing with troubled banks and are less inclined to rely as quickly on the liquidation process.

REGISTRATION

Securities broker-dealers generally must register with the SEC before conducting business. While broker-dealer activities undertaken by a bank itself generally are exempt from registration requirements, bank subsidiaries and bank holding companies or subsidiaries that are broker-dealers must register with the SEC. Registered securities broker-dealers also are registered with the NASD or another SRO, such as an exchange, and are required to have their sales and supervisory personnel pass written examinations.

Broker-dealers that engage in transactions involving municipal or government securities generally also are registered with the SEC, but are subject to somewhat different requirements than the general registration requirements. When the bank itself acts as a government securities broker-dealer, the bank is required to notify its appropriate bank regulatory authority that it is acting in that capacity.

CAPITAL REQUIREMENTS

Registered securities broker-dealers are subject to minimum net capital requirements pursuant to SEC Rule 15c3-1 or the U.S. Treasury's rules for government securities dealers (17 CFR 402). Requirements in excess of the minimum are also established by NYSE, NASD, and other SROs. If any of these minimums are breached, the firm is subject to harsh restrictions on its operations. Net capital is generally defined as the broker-dealer's net worth plus subordinated borrowings, minus nonliquid (nonallowable) assets, certain operational deductions, and required deductions (''haircuts'') from the market value of securities inventory and commitments. The level of the haircut depends on the type and duration of the security; the greater the duration and risk, or volatility, the greater the haircut.

CREDIT RESTRICTIONS

Various credit and concentration restrictions are imposed on a securities broker-dealer if the dealer is unduly concentrated in a given issue. Additionally, the Federal Reserve's Regulation T imposes limits on the amount of credit which may be extended by broker-dealers to customers purchasing securities. This restriction varies with the type of security.

REGULATORY REQUIREMENTS

Regulatory Examinations

All securities broker-dealers are required to publish annual financial statements audited by independent accountants. The SEC has the authority to conduct examinations, including examinations for compliance with sales practice and customer securities-custody protection rules, recordkeeping and internal controls, and regulatory reporting. In most cases, the SEC delegates this examination responsibility to the NYSE or the appropriate SRO. The NASD also conducts all examinations of firms, except banks, that engage strictly in municipal or government securities trading. In the case of banks, bank regulators are responsible for the examination.

Regulatory Reporting

Securities broker-dealers are required to file a monthly Financial and Operational Combined Uniform Single (FOCUS) report with their examining authority. This report contains financial statements and computations for the net capital rule, segregated funds held on behalf of commodity futures customers, and a reserve

account designed to protect customer balances.[2] Government securities dealers file a somewhat similar report, the G-405 or ''FOG'' report, unless they are banks. Bank dealers file their normal call reports. If the broker-dealer is a bank-affiliated section 20 company, it will also file a monthly Y-20 report. This report consists of a balance sheet and income statement and is used to ensure compliance with the Federal Reserve's restrictions on the amount of ''ineligible'' revenue a section 20 company may have. Although FOCUS and FOG reports are generally confidential, securities broker-dealers will often make them available to large customers for credit reasons.

U.S. commercial banks and branches and agencies of foreign banks are required to file call reports with the appropriate federal bank regulatory agency. The call report includes schedules that detail various off-balance-sheet instruments and information on the institutions' trading-account securities.

2. SEC Rule 15c3-3 restricts the use of customers' funds and fully paid securities for proprietary transactions.

FOREIGN SECURITIES ACTIVITIES

Foreign-owned securities firms in the United States are subject to the same rules as domestically owned firms. In general, offshore activities conducted by U.S. broker-dealers that are located entirely outside of U.S. jurisdiction and do not involve U.S. persons are not subject to U.S. securities regulation. Moreover, for FOCUS and FOG reporting purposes, the securities broker-dealer is not required to consolidate foreign (or domestic) subsidiaries unless the assets and liabilities have been guaranteed by the parent.

The overall objective is to determine if the institution's trading activities are in compliance with applicable laws, regulations, and supervisory guidelines. Specified senior management, as well as the regulatory reporting area of the bank, must be thoroughly familiar with regulatory requirements. Whenever possible, the bank examiner uses the examination results of the securities regulators and FOCUS/FOG reports to help assess the firm's overall compliance record.

1. To determine if the institution's internal controls and audit program address the regulatory compliance aspect of its various trading activities.
2. To determine if the bank has in place risk-management procedures and controls that provide management with accurate and timely information on all trading positions and their potential impact on the institution's financial and regulatory position.
3. To ascertain whether the institution's personnel involved in trading activities are aware of and knowledgeable about laws, regulations, and supervisory and other standards applicable to these activities.

Senior management of financial institutions should establish ethical standards and codes of conduct governing the activities of their employees to protect the institution's integrity and standing in the market. The orderly operation of financial markets depends greatly on an overall level of trust among all market participants. Traders and marketing and support staff must conduct themselves at all times with unquestionable integrity to protect the institution's reputation with customers and market participants.

CODES OF CONDUCT AND ETHICAL STANDARDS

To ensure that employees understand all ethical and legal implications of trading activities, institutions should have comprehensive rules of conduct and ethical standards for capital-markets and trading activities—especially in areas where the complexity, speed, competitive environment, and volume of activity could create the potential for abuse and misunderstandings. At a minimum, policies and standards should address potential conflicts of interest, confidentiality and the use of insider information, and customer sales practices. Ethical standards and codes of conduct in these areas should conform with applicable laws, industry conventions, and other bank policies. They should also provide proper oversight mechanisms for monitoring staff compliance and dealing with violations and customer complaints. Internal controls, including the role of internal and external audits, should be appropriate to ensure adherence to corporate ethical standards of conduct. Policies and procedures should provide ongoing training for staff, as well as periodic review, revision, and approval of ethical standards and codes of conduct to ensure that they incorporate new products, business initiatives, and market developments.

Conflicts of Interest

Institutions should ensure that capital-markets personnel do not allow self-interest to influence or give the appearance of influencing any activity conducted on behalf of the institution. Safeguards should include specific restrictions on trading for the employee's personal account and on the acceptance of gratuities and entertainment. When developing compensation programs, institutions should recognize and guard against any potential conflicts that may arise between compensation structures and the institution's code of ethics and standards of conduct.

Fee-based activities, securitization, underwriting, and secondary-market trading activities in a number of traditional bank assets may create the potential for conflicts of interests if there is no clear segregation of duties and responsibilities. Conflicts of interest may arise when access to inside information gives an institution an unfair advantage over other market participants. Accordingly, policies should ensure that employees conduct themselves consistent with legal and regulatory restrictions on the use of inside information.

Confidentiality and Insider Information

The maintenance of confidentiality and customer anonymity is critical for the operation of an efficient trading environment. No client information should be divulged outside the institution without the client's authorization unless required by law or by regulatory authorities acting in their official capacities. Managers are responsible for ensuring that their staffs are aware of what constitutes confidential information, and that they know how to deal appropriately with situations that require customer anonymity.

Many institutions have established appropriate policies (so-called ''Chinese walls'') that separate those areas of the institution that routinely have access to confidential or insider information from those areas that are legally restricted from having access to the information. To prevent the misuse of confidential information, employees in sensitive areas should be physically segregated from employees in public areas.

Sales Practices

It is a sound business practice for managers to establish policies and procedures governing stan-

dards for dealing with counterparties. These guidelines and policies preserve the institution's reputation in the marketplace by avoiding situations that create unjustified expectations on the part of a counterparty or client. When determining the responsibilities of sales and marketing staff, management should take into account the sophistication of the counterparty, the nature of the relationship, and the type of transaction being contemplated or executed. In addition, certain regulated entities and markets may have specific legal or regulatory requirements governing sales and marketing practices, which marketers and sales personnel must be aware of.

Financial institutions should take steps to ascertain the character and financial sophistication of their counterparties. An appropriate level of due diligence should be performed on all counterparties with which the institution deals. Financial institutions should also determine that their counterparties have the legal authority to enter into, and will be legally bound by the terms of, the transaction.

When an advisory relationship does not exist between a financial institution and its counterparty, the transaction is assumed to be conducted at ''arms-length'' and the counterparty is generally considered to be wholly responsible for the transactions it chooses to enter. At times, clients may not wish to make independent investment or hedging decisions and instead may wish to rely on a financial institution's recommendations and investment advice. Similarly, clients may give a financial institution the discretionary authority to trade on their behalf. Financial institutions providing investment advice to clients, or using discretionary authority to trade on a client's behalf, should formalize and set forth the boundaries of these relationships with their clients. Formal advisory relationships may entail significantly different legal and business obligations between an institution and its customers than less formal agency relationships. The authority, rights, and responsibilities of both parties should be documented in a written agreement.

Marketing personnel should receive proper guidance and training on how to delineate and maintain appropriate client relationships. This includes guidance to sales and trading personnel regarding the avoidance of the implication of an advisory relationship when none is intended.

While procedures may vary depending on the type and sophistication of a counterparty, for its own protection, a financial institution should take steps to ensure that its counterparties understand the nature and risks inherent in agreed-upon transactions. When a counterparty is unsophisticated, either generally or with respect to a particular type of transaction, the financial institution should take additional steps to adequately disclose the attendant risks of specific types of transactions. Furthermore, a financial institution that recommends specific transactions to an unsophisticated counterparty should ensure that it has adequate information on which to base its recommendation—and that the recommendation is consistent with the needs of the counterparty as known to the financial institution. The institution also should ensure that its recommendations are consistent with any restrictions imposed by a counterparty's management or board of directors on the types or amounts of transactions it may enter into.

Institutions should establish policies governing the content of sales materials provided to their customers. Typically, these policies call for sales materials that accurately describe the terms of the proposed transaction and provide a fair representation of the risks involved. Policies may also identify the types of analysis to be provided to the customer and often specify that analyses include stress tests of the proposed instrument or transaction over a sufficiently broad range of possible outcomes to adequately assess the risk. Some institutions use standardized disclosure statements and analyses to inform customers of the risks involved and suggest that the customer independently obtain advice about the tax, accounting, legal, and other aspects of a proposed transaction.

Institutions should also ensure that procedures and mechanisms to document analyses of transactions and disclosures to clients are adequate and that internal controls ensure ongoing adherence to disclosure and customer-appropriateness policies and procedures. Management should clearly communicate to capital-markets and all other relevant personnel any specific standards that the institution has established for sales materials.

Many customers request periodic valuations of their positions. Institutions that provide periodic valuations of customers' holdings should have internal policies and procedures governing the manner in which such quotations are derived and transmitted to the customer, including the nature and form of disclosure and any disclaimers. Price quotes can be either indicative, meant to give a general level of market prices for a

transaction, or firm, which represent prices at which the institution is willing to execute a transaction. When providing a quote to a counterparty, institutions should be careful that the counterparty does not confuse indicative quotes for firm prices. Firms receiving dealer quotes should be aware that these values may not be the same as those used by the dealer for its internal purposes and may not represent other ''market'' or model-based valuations.

When securities trading activities are conducted in a registered broker-dealer that is a member of the National Association of Securities Dealers (NASD), the broker-dealer will have obligations to its customers under the NASD's ''business conduct rule'' and ''suitability rule.'' The banking agencies have adopted identical rules governing the sales of government securities in financial institutions. The business-conduct rule requires an NASD member to ''observe high standards of commercial honor, and just and equitable principles of trade'' in the conduct of its business. The suitability rule requires that, in recommending a transaction to a customer, an NASD member must have ''reasonable grounds for believing that the recommendation is suitable for the customer upon the basis of facts, if any, disclosed by the customers as to the customer's other securities holdings and as to the customer's financial situation and needs.''

The suitability rule further provides that, for customers who are not institutional customers, an NASD member must make reasonable efforts to obtain information concerning the customer's financial and tax status and investment objectives before executing a transaction recommended to the customer. For institutional customers, an NASD interpretation of its suitability rule requires that a member determine (1) the institutional customer's capability for evaluating investment risk generally and the risk of the particular instruments offered and (2) whether the customer is exercising independent judgment in making investment decisions. The NASD interpretation cites factors relevant to determining these two requirements.

MANAGEMENT OVERSIGHT

Management should monitor any pattern of complaints concerning trading, capital-markets, and sales personnel that originate from outside the institution, such as from customers, other trading institutions, or intermediaries. Patterns of broker usage should be monitored to alert management to unusual concentrations. Broker entertainment of traders should be fully documented, reviewed, and approved by management. In addition, excessive entertainment of brokers by traders should be prohibited.

Management should also be well acquainted with the institution's trading activities and corresponding reports so that, upon regular review, they can determine unusual patterns or concentrations of trading activity or transactions with a customer that are not consistent with the customer's usual activities. Management should clearly and regularly communicate all prohibited practices to capital-markets and all other relevant personnel.

COMPLIANCE MEASURES

Personnel affirmations and disclosures are valuable tools for ensuring compliance with an institution's code of conduct and ethical standards. Procedures for obtaining appropriate affirmations and disclosures where and when required, as well as the development of forms on which these statements are made, are particularly important. At a minimum, employees should be asked to acknowledge annually that they have read and understood the institution's ethics and code of conduct standards. Some companies also require that this annual affirmation contain a covenant that employees will report any noted violations. Several major financial institutions have adopted additional disclosure procedures to enforce the personal financial responsibilities set out in their codes. They require officers to file with the compliance manager an annual statement dealing with family financial matters or, in some cases, a statement of indebtedness. Finally, many institutions require traders to conduct their personal trading through a designated account at the institution. Adequate internal controls including review by internal audit and, when appropriate, external audit are critical for ensuring compliance with an institution's ethical standards.

1. To determine if the institution has adequate codes of conduct and ethical standards specific to its capital-markets and trading activities, that their scope is comprehensive, and that they are periodically updated.
2. To review and ensure the adequacy of the institution's policies, procedures, and internal-control mechanisms used to avoid potential conflicts of interest, prevent breeches in customer confidentiality, and ensure ethical sales practices across the institution's trading activities. To determine if the institution has established appropriate and effective firewall policies where needed.
3. To determine that management has adequate policing mechanisms and internal controls to monitor compliance with the code of ethics and that procedures for reporting and dealing with violations are adequate. To determine if the supervision of staff is adequate for the level of business conducted.
4. To recommend corrective actions when policies, procedures, practices, or internal controls are found to be deficient or when violations of laws, rulings, or regulations have been noted.

These procedures represent a list of processes and activities that may be reviewed during a full-scope examination. The examiner-in-charge will establish the general scope of the examination and work with the examination staff to tailor specific areas for review as circumstances warrant. As part of this process, the examiner reviewing a function or product will analyze and evaluate internal-audit comments and previous examination workpapers to assist in designing the scope of the examination. In addition, after a general review of a particular area to be examined, the examiner should use these procedures, to the extent they are applicable, for further guidance. Ultimately, it is the seasoned judgment of the examiner and the examiner-in-charge as to which procedures are warranted in examining any particular activity.

1. Obtain copies of the institution's written code of conduct and ethics and any related policies and guidance. Determine if there are codes specific to all relevant trading and marketing activities.
2. Obtain any procedures used to guide staff in developing new accounts or preparing sales presentations and documents.
3. Evaluate the various codes and policies as to their adequacy and scope. Are prohibited practices clearly identified? These may include but are not limited to the following:
   a. altering clients' orders without their permission
   b. using the names of others when submitting bids
   c. compensating clients for losses on trades
   d. submitting false price information to public information services
   e. churning managed client accounts
   f. altering official books and records without legitimate business purposes
   g. trading in instruments prohibited by regulatory authorities
4. Are standards for the content of sales presentations and the offering transaction documents clearly identified? Do these standards address an appropriate range of transactions, customers, and customer relationships?
5. Review the institutions's firewall policies segregating its trading and advisory activities from those areas which have access to material nonpublic or ''insider information.'' Are the areas physically separated? Are employees aware of the requirements of the law restricting the use of such information, specifically section 10(b) of the Securities Exchange Act of 1934 and SEC Rule 10(b)5?
6. Identify the officer within the institution who is designated as compliance manager. Are trading personnel required to confirm in writing their acknowledgment of the various codes and to report violations? Are they required to file annual statements of indebtedness and outside affiliations? Check to see that adherence to these reporting requirements is being monitored by the compliance manager.
7. Determine how compliance with sales-practice policies is monitored by the institution. Are personnel outside the trading area reviewing sales documents and disclosures for compliance with policies? Review and evaluate the findings of internal and external audits conducted in this area.
8. Conduct limited transaction testing of sales documentation to review compliance with financial-institution policies and sound practices.
9. Determine if there is a general policy concerning violations of the code. Is there a specific procedure for reporting violations to senior management and the general auditor? Does it detail grounds for disciplinary action?
10. Recommend corrective action when policies, procedures, practices, or internal controls are found to be deficient or when violations of laws, rulings, or regulations have been noted.

1. Does the institution have a written code of conduct or ethics? Are there specific codes for capital-markets staff?
   a. Is there a statement as to the code's intention to conform with U.S. laws or laws of other countries where the institution has operations?
   b. Does this code cover the whole institution, including subsidiaries? If not, are there codes that apply to those particular areas?
   c. Does the code address specific activities which are unique to this particular institution? Do other areas of the institution with a higher potential for conflicts of interest have more explicit policies?
   d. Do the codes address the following issues:
      - Employee relationships with present or prospective customers and suppliers? Has the institution conducted appropriate inquiry for customer integrity? Does the institution's code properly address the following employee-customer or supplier relationship issues?
        — safeguarding confidential information
        — borrowings
        — favors
        — acceptance of gifts
        — outside activities
        — kickbacks, bribes, and other remunerations
        — integrity of accounting records
        — candor in dealings with auditors, examiners, and legal counsel
        — appropriate background check and assessment of the credit quality and financial sophistication of new customers
        — appropriate sales practices
      - Internal employee relationships between specific areas of the bank?
        — Do policies exist covering the relationship on sharing information between trading and other areas of the bank?
        — Is the confidentiality of account relationships addressed?
      - Personal employee activities outside the corporation? Does the institution—
        — periodically check whether employees maintain sound personal financial conduct and avoid excessive debts or risks?
        — monitor employee business interaction with other staff members, family, or organizations in which an employee has a financial interest?
        — prohibit employee use of confidential information for personal gain? provide for adequate control over trading for personal accounts?
        — require periodic disclosure and approval of outside directorships and business associations?
      - Regarding personal and corporate political activities, is the illegality of corporate political activities (for example, contributions of goods, services, or other support) addressed?
      - The necessity to avoid what might only appear to be a possible conflict of interest?
2. Does management have the necessary mechanism in place to monitor compliance with the code of ethics?
   a. Are officers and staff members required to sign an acknowledgment form that verifies they have indeed seen and read the code of conduct and ethics?
      - Is there a periodic program to make staff aware of and acknowledge the importance of adhering to the code?
      - Are officers required to disclose their borrowing arrangements with other financial institutions to identify a potential conflict of interest?
   b. What departments and which officers are responsible for monitoring compliance with the code of conduct and ethics *and related policies*? What mechanisms do they employ and are they adequate?
   c. How is information in the code relayed to staff?
      - Have there been any breaches of the code? If so, what was the situation and how was it resolved?
      - Do bank personnel avail themselves of the resources outlined in the code when there is a question regarding a potential conflict of interest? If not, why?
      - Are all employees aware of the existence of the code? If not, why?
      - Does the bank's management generally

believe that all potential conflicts of interest have been anticipated and are adequately covered in the code?
- Are internal auditors involved in monitoring the code of ethics?
- Does the organization's culture encourage officers and employees to follow the standards established by the code?

3. Are there resources for an employee to obtain an opinion on the legitimacy of a particular circumstance outlined in the code of conduct and ethics?
   a. Does the code emphasize the need for employees to report questionable activities even when the issues are not their particular responsibility? Are the proper channels of action outlined for these types of cases?
   b. Does the code outline the penalties or repercussions such as the following for breach of the code of conduct and ethics?
      - potential to lose one's job?
      - potential for civil or legal action?
      - eventual damage to the corporation's reputation?
4. Is the code of ethics updated frequently to encompass new activities?